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ORIGINAL ARTICLES.

SOME EXPERIMENTS WITH MODIFIED TUBERCULIN.[1]

BY JOSEPH EICHBERG, M.D.,

PROFESSOR OF PHYSIOLOGY IN THE MIAMI MEDICAL COLLEGE, CINCINNATI.

THE lamentable failure of the original Koch treatment of tuberculosis is still fresh in the medical mind. Heralded in advance by the one man who had inseparably identified his name with the great scourge of the temperate zone, the treatment was received with confident faith by the entire profession. The circumstances preceding, and the manner of, its publicity savored somewhat of charlatanism; but these were explained and excused on the plea that great political and personal pressure had been brought to bear on the illustrious scientist, to whom modern pathology owes so much. More than any other had he contributed to the establishment and proof of the bacterial theory in pathology as applied to every single member of the group of infectious diseases. It was but natural that to him the world of scientific medicine should turn for some practical result of his great philosophic and experimental work.

Nor was he wholly blameworthy. Clinicians of great repute and deserved eminence had closely followed his experiments, to which they lent their countenance, which they copied in detail, and subsequently reported in terms of fulsome praise, with some of their marvellous results. Few in the profession would question any statements emanating from such men as Koch, Bergmann, Gerhardt, and Senator; everyone was excited, and there went up a feverish cry, "To Berlin."

The disillusion came speedily enough. There could be no doubt of the wondrous effects of the new remedy, but their duration was brief, and following the temporary improvement there came a period of increased destruction, with dangerous complications, and not a few fatalities. Where there had been great authority to sanction, there now came the menacing voice of Virchow, commanding a halt, fully justifying, on the post-mortem table, his scathing condemnation of the method, and of its disastrous consequences.

[1] Read at the meeting of the Mississippi Valley Medical Association, October 14, 1892.

The rocket had soared high, and its flight was hopefully followed by many a poor sufferer; the thud with which it speedily fell carried a corresponding gloom, and seemed to close another avenue of escape to many tuberculous patients, to whom there had come a promise of new life.

However, not all were willing to wholly abandon a method that seemed to rest on so secure and scientific a basis. The whole theory of establishing immunity by inoculation with attenuated cultures, a theory positively proved by Pasteur, seemed to point to some such logical result as Koch had presumably achieved. True it was, that in one case we were dealing with a healthy organism, and the inoculations were preventive; in the other, the disease was more or less fully established, and the inoculation was to be curative. In the one case we were anticipating the possible development of an infectious disease; in the other, we had to deal with an individual already in the grasp of the destroying malady.

Yet there existed between the two classes an analogy of causation so close as to reasonably suggest that a similar course of treatment would be attended with results positively beneficial. That such a line of reasoning embodies no sophistry has only lately been proved by the brilliant results of Cattani, Tizzoni, and others in the cure of fully established cases of tetanus. By inoculation with an antitoxin obtained indirectly from pure cultures of the tetanus-bacillus, no less than six cases have been reported as cured, a result far beyond the limits of mere accidental recovery.

Consequently, there came to the minds of many a certain doubt as to the expediency of wholly dropping both Koch's plan and his remedy, although the latter was then strongly in disgrace. Efforts were made by a number of observers, as also by Koch himself, to separate from so-called tuberculin those principles that gave rise to the high fever, general malaise, and increased destruction around the tuberculous deposits. If this could be achieved, the remainder might then be counted upon to manifest all of the beneficial and curative properties of the original lymph, without exposing the patient to any risk from the treatment.

In two instances have these efforts at modifying the lymph been notably successful: in the case of Klebs, who obtained from Koch's tuberculin a compound which he calls tuberculocidin, and for

which he claimed great curative powers; and in the case of Hunter,[1] who made a most careful chemical analysis of the lymph, and who succeeded in isolating from the lymph a number of substances, which he designated by letter as modifications A, B, CB, etc.

The employment of modification B seemed to be attended with fewer unpleasant consequences than that of any of the others, an experience that was subsequently verified in the human subject. This modification consists in the isolation of an albumose or group of albumoses, which are re-dissolved, and then employed in a diluted form. Klebs retained the secret of the manufacture of his tuberculocidin, though he allowed it to be sold in the open market. Hunter, guided by a finer, more unselfish professional instinct, at once published his results, and also the method of preparing his modification. It is his preparation B which has been used in our experiments, the same that received the indorsement of Dr. Kinnicutt,[2] whose moderately satisfactory results, together with my own belief that we had not yet exhausted all there was in tuberculin, induced me to subject it to a test, whose results I will give in summary.

First, in defence of these experiments, which might otherwise be open to censure, it must be premised that both Hunter's and Kinnicutt's experience seemed to establish the comparative harmlessness of this peculiar agent. Without such assurance I should not have been tempted to its trial. The mere fact that want and misfortune compel many to seek the asylum of a hospital certainly confers no right upon the physician to trifle with remedies that may possibly aggravate their disorders; and it was solely because of the prominence given to the quality of the remedy, and the freedom from general and local sequelæ of an unfavorable kind, that it was given so thorough a test.

These, then, were the conditions upon which we engaged in these experiments: (1) That the injections should not give rise to any immediate local reaction; (2) that there should not follow fever, or depression, or general lassitude; (3) that there should be no symptoms indicating an increase of destructive process, or a development of fresh inflammatory change in the seat of tuberculous disease; (4) that the dosage should be regulated by careful and repeated observation of the temperature and pulse.

All these indications have been fully met. I can here give only a short *résumé* of the results achieved. Such as they are, they are full of encouragement, and mark the remedy as worthy of more extended trial.

It must be remembered that we were dealing, in the main, with a most unfavorable class of cases, that our experiments were made during an exceptionally hot summer, and that our patients were not selected with any view as to special fitness for the experiment. All alike received the injections; many were then hopelessly sick, two almost moribund; manifestly little could be hoped for from any treatment at this stage; yet it was desirable to define as nearly as possible the limits within which benefit might be derived, and this could only be done in the way suggested.

Incipient cases, those most likely to be permanently relieved, rarely present themselves for hospital aid during the pleasant weather. Still able to go about, they find some means of eking out an existence until the rigors of winter and increasing helplessness drive them to some charitable institution.

Another feature, connected solely with hospital life, has had its bearing upon our cases. The hospital authorities have no power of imposing restraint upon any patient, except in the cases of such as are under police surveillance. As soon as a patient insists upon his discharge, it must be granted, even though it be against his own interests; and, in most instances, it is useless to appeal either to his reason or to his fears. Thus it happens that some of our most promising cases passed beyond control after the first manifest improvement in their condition had taken place. In private practice, mere self-interest will bind the patient in such a case, so long as there is any hope of further betterment.

The injections were made daily by means of a syringe with asbestos wrapping and packing. The syringe and needles, as also the glass cups for the solution, were sterilized daily before using—a precaution which I believe unnecessary, but which was followed throughout, to avoid any accidental contamination. The solution was kindly prepared for me by Mr. Mark Brown, of Miami Medical College, in the laboratory of the Cincinnati University, according to the directions given by Dr. Kinnicutt.[1] The lymph, from which the solutions were made, was part of an unbroken package, received from Germany about two years ago. In the process of preparation all apparatus was sterilized, and the water used in dialyzing was previously boiled. The

[1] British Medical Journal, July 25, 1891.
[2] New York Medical Record, May, 1892.

[1] Method of preparation of Hunter's modifications. Modification B: 1 c.c. of tuberculin, 5 c.c. distilled water, saturation with preferably large crystals of ammonium sulphate for twenty-four hours in the cold, the precipitate filtered off and freed as far as possible from any crystals of ammonium sulphate, placed in the dialyzer, and dialyzed just so long and no longer in running water, and then in distilled water until all trace of ammonium sulphate has disappeared. Crystals of thymol are added to the solution to prevent any putrefactive change; the solution is then made up to such bulk that 10 c.c. shall correspond to each c.c. of tuberculin employed. (Title: B, 10 per cent.)

dialyzer consisted of fine sausage-casing. The solution was received and kept in sterilized glass-stoppered bottles.

In a kind letter from Dr. Kinnicutt, he says: "Both Dr. Trudeau and I deemed it prudent to still further dilute the 10 per cent. preparation B and CB. The formula which we adopted was as follows: 1 c.c. of the 10 per cent. solution was diluted with 10 c.c. of ½ per cent. carbolic acid solution, and of this 0.002 gram was used by me for the initial inoculation; 0.005 gram by Trudeau. By me the dosage was increased by 0.002 gram daily, by Trudeau by 0.005 gram. If any elevation of temperature above 100° F. followed an inoculation in an apyretic case, the same dosage was retained until such a rise ceased to be developed. In pyretic cases the daily range without inoculation was carefully studied for several days, and any rise above the daily range, following an inoculation, was regarded as an indication to diminish the dosage or hold it at the same amount. As I stated in my lecture, the B preparation only should, in my judgment, be used."

These directions have been carefully followed, except that the increase of dosage, begun at 0.0025 gram, was afterward changed to 0.005 gram daily in cases in which tolerance was well established. In no case did the amount injected exceed 0.100, which, as we were dealing with a 1 per cent. solution of the original lymph, represents a very minute dosage. In some later experiments reported by Trudeau,[1] the initial dose was 0.003 gram daily, which was finally carried to 0 7 or 0.8, the increase being slowly kept up as long as no rise of temperature occurred; but there seemed to be no indication in our cases for any larger dose than the one mentioned. Indeed, symptoms of decided improvement set in in a considerable number of cases before the dose reached 0.03 gram of the diluted solution.

The clinical material embraces twenty-nine cases of undoubted pulmonary tuberculosis, one of lupus, and one of tuberculous peritonitis. With reference to the latter, some doubt may be expressed as to the accuracy of the diagnosis. The only reply that I can make is that all of the symptoms ordinarily manifested in tuberculous peritonitis were present; that there was at the same time incipient pulmonary tuberculosis, with continued fever; and that the patient was a negro, chronic tuberculous processes being especially common in the colored race. In this case perfect recovery ensued.

The case of lupus, which had been treated a year before with the original tuberculin without success, remained under observation for too short a time to furnish any reliable data, the patient being expelled from the hospital for insubordination. Another patient, a case of pulmonary tuberculosis, with beginning excavation of the lung, improved so much that he felt obliged to celebrate the change in his condition by assaulting the cook, whom he thoroughly worsted in a fistic encounter; though, at the time of his admission, this patient was unable to leave his bed. One case of pulmonary tuberculosis, with elastic fibers in the sputum, was discharged perfectly well; fever, cough, expectoration, all had disappeared, and there was a gain in weight of fifteen pounds.

Of the 29 cases of pulmonary tuberculosis, 22 were males, 7 females; 4 of the latter were colored. The ages of the patients ranged from twenty-one to fifty-one years, 11 being below thirty, and 9 below forty years of age. Six patients died; one had, in addition to the pulmonary changes, chronic interstitial nephritis; one died twelve days after admission from a complicated tuberculous laryngitis, which rendered swallowing very difficult; another had total adhesion of the pericardium, with fatty kidneys; a fourth was almost moribund on admission, but lived seventeen days.

In no single instance could it be said that death was hastened by the injections; nor, in the case of tuberculous laryngitis was there any change for the worse in the local ulceration. In no case was hemorrhage observed to follow the injections. In general, all patients, without exception, declared that they felt better, breathed with greater freedom; a weight seemed to be lifted from the chest, and the general condition seemed to indicate a better tone.

Of the remaining cases, three are still in the hospital; one was discharged at her own request in a condition little better than when she came; one was discharged well; one nearly well, and fourteen were greatly improved.

A rating as to improvement was based upon a gain in weight, a diminution in the frequency and severity of cough, diminished quantity of expectoration, and cessation of night-sweats. The physical signs were altered, inasmuch as dry sounds took the place of coarse, moist râles and fine crepitations, showing clearly an arrest of the destructive changes in the lung-tissues. The computation of the bacilli was not made, owing to the uncertainty attending such estimates.

The average stay in the hospital of all cases subjected to the treatment by inoculation was 56.6 days. Few cases received inoculations for more than fifty days, many leaving earlier—as soon as they had in a measure regained their strength. In no instance did a patient suffer any local inconvenience about the point of inoculation. For the

[1] THE MEDICAL NEWS, September 10, 1892, p. 299; September 24, 1892, p. 364.

most part, the injections were given in the infraclavicular region; for no other reason than that the parts, being already exposed by the examination, offered a convenient surface. The strength of the solution was gradually increased, so that the amount given never exceeded the contents of one syringe.

The effect on the urine was, in many instances, decided; an increased flow rapidly followed the inoculations, and the daily average remained higher during the time of the experiments. The first effect on the sputum was to cause an increased expectoration, to be followed later on by a gradual diminution. Parallel with this was a change in color and composition, the sputum becoming less viscid and more distinctly mucous in character. The cough became less troublesome. Three of the cases were interrupted in their convalescence by a prostrating diarrhea, which seemed in no way connected with the inoculations.

The most surprising effect was observed in the temperature. By the exercise of great industry the nurses in the respective wards kept records for two weeks of hourly observations of the temperature before and after the injections. Subsequently, these were supplemented by records taken every three hours.

In but the fewest instances was there noted any decided rise, *i. e.*, to, say, more than 2°; while in the larger number there was, within the six hours immediately following the injection, a decline of between 2° and 3.5°; this decline followed whether the injections were made early or late in the day, so that it was not due to diurnal variation. In cases in which originally there had been continuous fever, it was noted that in all, save the most advanced, the mean daily temperature steadily declined, approximating the normal line during the entire twenty-four hours. In cases that were apyretic at the outset the thermal line remained subnormal during the greater part of the twenty-four hours.

The experiments were sometimes interrupted for a day or two, when it was noted that the maximum of the intervening days was higher than when the injections had been given. It was a common experience to find the temperature after midnight subnormal. The pulse-rate was slowed, but without much gain in the volume or force of the circulation. In apyretic cases there was never any increase of temperature.

In conjunction with the inoculations all patients received five-drop doses of creasote, with oil.

Our present position has been well expressed by Trudeau in the paper already quoted. "More extended research and clearer knowledge of the various elements, both beneficial and injurious, contained in bacterial products, as well as of their effects upon tuberculous animals, may in the future lead to still further improvement in this as yet tentative method of treatment. At present its limitation to early and apyretic cases seems indicated." On the strength of our own experience we would go somewhat further. The greatest benefit—indeed, complete restoration with cicatrization of tuberculous deposits—may be hoped for in incipient cases during the apyretic stage; but even in advanced cases some improvement, with consequent prolongation of life, will be frequently observed. Experiments hitherto reported have, in the main, been carried on in localities in which the altitude and climate contribute greatly to favor a cure. Yet the fewest of patients will be so situated financially as to avail themselves of climatic changes; indeed, the majority will not be able to do so. It is especially with a view to again call attention to the possibilities of prompt treatment in the incipient stage of such cases that I have reported this comparatively limited number of observations.

THE TREATMENT OF TUBERCULOUS LARYNGITIS WITH MODIFIED TUBERCULIN.[1]

A Preliminary Report.

BY MAX THORNER, M.D.,
OF CINCINNATI, OHIO.

NOT more than twelve years ago tuberculosis of the larynx was considered an incurable disease—so hopelessly incurable, in fact, that nobody attempted to treat the local affection with the view of healing it, but simply for the purpose of alleviating, if possible, the agonizing sufferings of the patients. It was in the year 1880 that Prof. Moritz Schmidt, of Frankfurt, reported sixteen cases of tuberculous laryngitis that he had cured (of which number, after thirteen years, there had been no recurrence in the larynx in two).[2] Then, for the first time, it was strikingly emphasized that one should enter upon the treatment of laryngeal tuberculosis with the view of a possible cure, and subsequent events have proved the correctness of this position. I need only mention the names of Heryng, of Warsaw, and Krause, of Berlin, who, by their surgical treatment of this affection, have established the fact (as many others, too numerous to mention, have also done by other methods of treatment) that there is a possibility of laryngeal tuberculosis being cured. Unfortunately, the number of such cases cured and remaining so is exceedingly small.

It is, therefore, not to be wondered at that, when the first enthusiasm over Koch's tuberculin had subsided, the disappointment was so much the greater. The agent had not done for the larynx

[1] Read before the Mississippi Valley Medical Association, October 14, 1892.

[2] M. Schmidt: Tuberculin bei Kehlkopftuberculose. Verhandl. d. X. Cong. f. inn. Medicin. Wiesbaden, 1891.

what had been expected; for the larynx was the very region to demonstrate *ad oculos* the curative action—to allow the study of every phase of any change that might take place. It was in this sense that Lennox Browne wrote in his early monograph on Tuberculin: "*Not only is the larynx the most appropriate place for the study of true tubercle, but it is also the most appropriate and convenient site for accurate observation of the various stages of its development toward reparation which takes place under Koch's treatment.*"[1] The outcome of the numerous experiments is yet fresh in our minds. Referring to the larynx alone, the cases in which improvement or cure followed the administration of the lymph were few, while evil results followed in many cases. Not only did new tuberculous eruptions occur in situations in which previously the tissues appeared healthy, but swellings and edema developed in many cases, causing threatening dyspnea, which, in a few cases, necessitated tracheotomy.

When "crude tuberculin" (as it was afterward called) had fallen into disuse, there were quite many observers who were at heart convinced that the underlying principle of the treatment was correct, and that it would finally be triumphant. This idea is very prettily expressed by Prof. M. Schmidt in his concluding remarks on "Tuberculin in Laryngeal Phthisis," when he says:[2] "If this experiment should fail, we shall be compelled to bid farewell for some time to the light that shed so brightly its warm rays of hope into the most profound depths of human misery. The road, however, opened to us by the great Robert Koch is sure to lead us some day to our goal."

Since that time experiments have been made with some modifications of tuberculin, the details of which have already been entered into. The following two cases have been treated with Hunter's modification B of tuberculin,[3] for the supply of which I am indebted to Dr. Joseph Eichberg, who has also seen the cases several times with me. The injections were always made between the shoulder-blades, with carefully sterilized syringes and needles. The temperature was taken every two hours, from 7 A.M. to 9 P.M., the patient always sleeping soundly through the night.

CASE I.—Charles V., forty-three years old, was first seen March 24, 1892. He had been discharged from St. Mary's Hospital but a few weeks previously, where he had been under treatment for pulmonary tuberculosis. At the time of his discharge from the hospital the cough had improved. At the time of his first visit he was coughing incessantly, was very hoarse, complained of pain in the laryngeal region, and had some dyspnea. He was a typical case of pulmonary tuberculosis. He weighed 123 pounds. His temperature ranged from 98.4° to 101.6° F. Physical examination revealed the presence of an active process in the lungs. Tubercle-bacilli were found in the sputum.

The entire larynx was congested; the left vocal band was intensely swollen to double its normal size, especially so in its posterior portion; the upper surface and free edge were rough and uneven, having the appearance of being covered with small excrescences, which assumed a bunch-like shape near the inter-arytenoid fold. The processus vocalis was marked by a small yellowish ulcer; beginning at this particular spot there was considerable swelling, confined to the laryngeal side of the mucosa covering the left arytenoid cartilage; this infiltration was also the seat of several superficial ulcers; the lower surface of the left band was considerably infiltrated, presenting the appearances seen in an attack of chorditis vocalis inferioris acuta; while repeated examination, with the aid of Prof. Killian's excellent method,[1] failed to disclose any affection of the posterior laryngeal wall, a favorable location for tuberculous deposits.

Surgical treatment being contra-indicated on account of the extremely weak condition of the patient, the larynx was treated locally with lactic acid and menthol. Internally the man took beechwood creasote. This treatment seemed to hold further advance of the local trouble in check, whilst the general condition had improved materially at the time when the injections were begun. He had gained ten pounds; felt stronger; coughed very little, at times not at all. There was not quite so much hyperemia of the larynx, and some of the small superficial ulcers had healed. Otherwise the condition was unchanged. The temperature ranged from 98.6° to 99.4° F.

On September 5, 1892, the first injection of 0.0025 of tuberculin was practised. This amount was gradually increased until, on October 8th, 0.1 was reached. The injections were made every day. The temperature ranged from 98° to 99.6°. Only on one day was there a temperature of 100.2°, and this was the second day after I had commenced injecting 0.1; after that the temperature returned to 99.6°. The highest temperature was usually found from two to four hours after the injections, which were generally made between 10 and 11 A.M. The lowest temperatures were registered in the early forenoon. Ordinarily, the temperature did not rise above 99°. The general condition of the patient was always good. Only during the first few days did he complain of general malaise, sometimes of headache; but these soon left him, never to return.

The laryngoscope at no time revealed any increase of the hyperemia, any new swelling, any evidence of tuberculosis in places previously free.

[1] Lennox Browne: Koch's Remedy in Relation specially to Throat Consumption, 1891, p. 3.
[2] Loc. cit.
[3] Brit. Med. Journal, 1891.

[1] G. Killian: Die Untersuchung d. hint. Larynxwand. Jena, 1890. Rudolf Keller: Zur Tuberculose der hint. Larynxwand. Inaug. Dissertation, Freiberg, 1892.

There was, in fact, at no time any untoward symptom noticed in connection with the larynx. After the fifth injection it was possible to notice a subsidence in the congestion. The congested mucosa gradually assumed a paler color, while the infiltration of the vocal band, especially in its anterior portion, had greatly diminished at the end of the third week, when Dr. Eichberg saw the case again; the large superficial ulcers over the arytenoid had healed, and the lobular swellings around the processus vocalis had decreased in size; the subglottic swelling had also greatly abated. This improvement continued, though slowly, but in an unmistakable manner. On October 6th, one month after the first injection, the patient volunteered the statement that he experienced much less dyspnea when walking up hill. On October 14th, the improvement had continued; there remained only a small portion of the excrescences in the posterior part of the cord; the subglottic swelling, though still visible, was materially reduced, and the mobility of the left cord was greater. The voice was clearer than before.

CASE II.—Mrs. S. M. H., thirty-five years old, has had pulmonary tuberculosis for a number of years, an exacerbation usually taking place in the autumn. For two months she had complained of pain in swallowing. Tubercle-bacilli were found in the sputum.

On September 20, 1892, laryngoscopic examination showed the epiglottis to be considerably thickened; on the laryngeal surface, near the left upper border, was a yellow ulcer as large as a split-pea. There was also considerable pear-shaped swelling of both arytenoids, and some slight swelling of the inter-arytenoid membrane. The temperature ranged between 98.8° and 99.8° F. On September 27th, a first injection of 0.0025 was practised. The dose was gradually increased every day until it was 0.035. There was never any untoward symptom in connection with the larynx. The small ulcer healed; the infiltration of the epiglottis slightly diminished; otherwise the condition remained unchanged. The temperature ranged from 98.6° to 99.6°. The patient became able to swallow without pain.

These two cases are insufficient, and the time of observation is yet too limited to permit of any definite conclusions. They seem, however, to encourage further research in the same direction with some of the modifications of tuberculin. I shall certainly continue to investigate the effect of this powerful preparation, deprived of its toxic constituents, and I confidently hope that many others will do the same, for, as the late S. D. Gross has said: "In an inquiry of this kind individual experience amounts to nothing; collective experience is everything."

Adolph Baginsky has been elected Professor of Pediatrics at the University of Berlin.

SOME PERSONAL OBSERVATIONS AND REFLECTIONS UPON ALCOHOLISM, THE EFFECTS OF ALCOHOLIC ABUSE UPON POSTERITY, AND THE TREATMENT OF ALCOHOLISM.[1]

BY H. ERNEST SCHMID,
OF WHITE PLAINS, N. Y.

I DO not know of any subject which is of greater importance than alcoholism to the individual, the family, and even to the nation at large. Alcoholism far exceeds in interest, magnitude, and wide-reaching consequences, morphinism or any allied vices. He who lives under the constant influence of an opiate will become conspicuously obnoxious to those surrounding him only when deprived of the enslaving drug. In the majority of instances he will commit acts of selfishness and cruelty only when impelled by the bitterest misery to secure, at any hazard, the means of purchasing more opium or cocaine, or whatever special form of anodyne or opiate to which he may be particularly attached.

According to my, not small, experience, when supplied sufficiently with all he craves, beyond being a social nuisance, he is comparatively harmless. But how different with the man who drinks to excess! In many instances he becomes a brute, and acts brutally toward strangers, friends, and relatives.

In order to criticise, or select intelligently, a plan of treatment adequate to the greatness of the subject, it is but proper to contemplate first the way in which alcohol damages the system. Of course, I speak of the damage wrought by its abuse.

The effectively intoxicating part of all alcoholic beverages is called ethyl-alcohol, and by pharmacologists is properly ranked with the poisons; but, in common with other drugs of the same class, it is, in suitable cases, prescribed by physicians, for when a physician orders brandy in the form of cognac, his patient thus takes about 55 per cent. of ethyl-alcohol. When he orders Malaga wine (a favorite prescription for children in certain countries), the little one gets from 17 to 28 per cent. of the same alcohol, and in lager beer 3 per cent. to 5 per ecnt.

It has often amused and astonished me at the same time when I have heard it said that lager beer is a non-intoxicating drink, as, for example, the man who imbibes ten glasses of it (often but an ordinary feat) drinks about half a glass of pure ethyl-alcohol. This substance is carried into the blood, chiefly through the intestinal veins, and to some extent through the chyle-vessels. It speedily passes through the walls of the vessels, and the richer an organ is in blood the more of the alcohol it imbibes. The rapidity with which the entrance of alcohol into

[1] Read at the meeting of the New York State Medical Association, held in New York, November 15, 16, 17, 1892.

the system is effected is truly astonishing, for in only a few minutes after it is swallowed it can be found in the venous and arterial blood and in the main trunk of the lymph-vessel system.

Of all the organs that absorb this poison from the blood the brain is the first in this process, and hence also first in showing its effects. It is thought that the action upon the nerve-centers is atomic or molecular in character. If the excess in drinking is slight, and of short duration, this atomic union will occur in a very loose manner, so that the alcohol must soon let go its hold again, so to speak; but when severe and protracted indulgences are practised the chemical affinities of the nerve-elements are paralyzed, and their life finally destroyed.

Next in order comes the heart, whose action is quickened, resulting in a more rapid pulse, while the tension of the arterial walls and blood-pressure are lessened. The blood itself is *not* changed by the alcohol.

Upon the digestive function alcohol exerts a peculiar influence. Small doses, diluted, stimulate and increase the secretion of the gastric juice; whereas, large amounts interrupt, delay, or entirely suspend it. Competent observers maintain that any quantity at all, if taken during the process of digestion, produces the latter effect.

Tissue-change is decreased, according to almost all observers, by the use of alcohol. The breathing, at first accelerated, gradually becomes slow, and the excretion of carbonic acid is lessened. The temperature of the body is affected only by large doses, which lower it. A great expenditure of warmth is caused by the dilatation of the vessels of the skin, by paralysis of the muscles, and by a reduction of the oxidizing processes in the tissues.

A study of the intoxicating and, hence, destructive effects of alcohol upon a child, gives still more guidance to its proper treatment in the adult alcoholist. There we notice far more clearly how powerfully the nervous system is attacked by it. The first stage is almost always one of excitation, though this is occasionally absent in the child, as well as in the adult, either on account of a large quantity, or a very susceptible organism. This stage of excitation is marked by a great sensitiveness to external excitants, and by most active muscular unrest, often progressing to light muscular spasms of a clonic or general tetanic character. In the next stage the child becomes deeply depressed. There is a relaxation of nerves and muscles, resembling paralysis. In this condition, coma-like, it may lie from twelve to thirty-six hours, being roused with difficulty, and only for moments at a time.

Occasionally, I have said, there is an absence of the first period of excitement, and the rapidity of the absorption of alcohol is exemplified by an action almost lightning-like upon the central nervous system. I once saw a man drink a full goblet of whiskey, and in less than five minutes, a second. A third was attempted, when all at once the glass fell from his hands, and he lay senseless upon the floor. He was ill for weeks.

During the first week of September I was called to see two cases of alcoholism that were to be treated at the Keeley Institute. Both, however, arrived in so terrible a condition that I was sent for to see if they could be roused from the almost coma-like state in which the last drink had placed them. It was impossible. One expired within fifteen minutes of the time I first saw him, the other within two hours. The latter presented a very interesting point. He was pulseless, unconscious, insensitive to any touch; his feet and hands were cold. I gave him hypodermatic injections of brandy, and he reacted. In an hour he was perfectly conscious, answering all questions, but he lived only about two hours from the time I made my first visit. I mention these cases on account of the interesting deductions to be made from them.

In prescribing alcohol for a child we should always bear in mind that it not infrequently produces convulsions in the infant; and, furthermore, that even very small doses of it act only transiently as a vivifier and apparent strengthener of the nervous system; even then, such effects are soon followed by relaxation. In reality alcohol only transiently benumbs the feelings of weariness; and finally, in larger doses it produces a momentary, never an enduring strength. It is, therefore, indicated medicinally only in that pathologic condition that approaches collapse, with a frequent and small pulse. In such cases alcohol may serve to "tide over," by causing temporarily a slower, fuller, and stronger pulse.

We should also never forget that in tea and coffee we have the agents, *par excellence*, that raise and sustain strength in muscular and mental labor, and this is truer of tea than of coffee. The wife of Lieutenant Peary, lately returned from a most successful North-Pole expedition, informed me that tea almost always, coffee rarely, was their beverage.

Alcohol was some time ago excluded from the quartermaster's department of Northern expeditions. It is a mistake on the part of any practitioner to direct even the smallest doses, long continued, of alcohol in water or milk, to be given with a view of imparting strength. This it will not do, but will disturb the natural course of digestion by inducing chronic irritation of the mucous membrane of the stomach, with dyspepsia. Chronic gastric catarrh, difficult of correction, enlargement of the intestinal lymphatics, rapid loss of weight and strength, and

in a few instances cirrhosis of the liver, are some of the pathologic conditions that follow long-continued use of even small doses of alcohol.

But what are these effects compared with those wrought upon the central nervous system of the child? The answer can occasion no surprise if we recall the grave and constant anatomic lesions that develop in the cerebro-spinal system of the adult alcoholist.

The delicate nerve elements of the child are still in an active state of development, *i. e.*, more full of blood than later in life, and the meninges therefore very prone to congestions, to dangerous serous effusions and to inflammations. For these reasons alcohol must affect the brain of the child much more injuriously. From its baneful influence often arise epilepsy and chorea. That, in many cases, alcohol is the cause is recorded by thoughtful and investigating physicians, and has been proved by the happy cure of these dreadful nervous disorders as soon as its use was discontinued.

I cannot resist alluding with a deeply-felt word of warning to the pernicious practice of allowing and even prescribing for nursing women the systematic use of alcoholic drinks with a view of producing a greater flow of milk for the baby; it is often advised by the family physician, and the hired wet-nurse stipulates as her right a certain daily allowance of beer or whiskey in the shape of milk-punch.

Could a sadder mistake be made? These same men, who allow or advise the practice, are doubtless opposed to the use of so-called swill-milk, which means milk from cows fed on distillery grain, by the eating of which they are kept in a chronic state of mild intoxication. But opposed as they are to the employment of swill-milk for adult or child, they help to produce in the human female a similar swill-milk for the poor infant. Competent and close observers have discovered a connection between this habit of the mother and the development in the children afterwards of true imbecility, and even idiocy.

Of all the effects upon the nervous system of the child, however, the most distressing and far-reaching is that upon the moral power, upon the morality of the being. Alcohol paralyzes this. The youth, who, so to speak, was alcoholized as a child, gives free reign to his passions. His will-power stands at zero. Dissipations have no terror for him at the very first meeting of them, nor have crimes. He not infrequently ends his career as a suicide.

Neurasthenia is a growing evil, even amongst the school children. Think how one admires, almost as a curiosity, a really fresh, sound, healthy child. As head of our local Board of Education for many years, I have given more than usual attention to the young in my district, and I have been astonished to find how many pupils at the age of from twelve to fifteen complain of headache, palpitation of the heart, insomnia and bad feelings generally—or perhaps they are dull and indifferent to everything, and display great weakness of memory and unnatural sleepiness and easily-induced exhaustion. Parents of such unfortunate and uninteresting and non-progressive children are very likely to ascribe all the shortcomings of their poor children to the fault of the much suffering teacher.

What must be the effect of all such changes if allowed, unchecked or unremedied, to go on into adolescence and manhood? I think far beyond the wretchedness with which it burdens the entire life of such an adult is to be considered the inheritance it bequeaths to his children.

Heredity is an unquestioned fact at this age. We know that qualities of the parents reappear in the child. A child whose father died before it could recognize or remember him will often exhibit the same peculiar gait in walking. If, occasionally, the child will escape such inheritance the grandchild may have it. Some families, from generation to generation, inherit mathematic or artistic capacity. If virtues and great traits are inherited, why should not defects, dispositions to diseases of body or mind, or of both? There is no question that the drunkenness of parents can and does entail the love for drink upon the offspring, or it may at least very decidedly imperil life and health. When we reflect on the fact that inheritance makes the good or bad quality or defect of the parent stronger in the offspring, this matter assumes a far graver aspect.

The craze for drink, the so-called acute alcoholisms, alcoholic mania, dipsomania, delirium tremens, chronic alcoholism, specific alcoholic psychoses—all are classed with mental disorders. As such they can descend to the children. Dipsomania can be transmitted from father to child, or else the effect of such defect in the father may produce an otherwise injured mentality in the offspring. It is astonishing how early this was recognized, for Plutarch uttered this startling sentence: "Ebrii gignunt ebrios"—Drunkards beget drunkards.

Many facts have been collected, all pointing in this same direction.

1. A man became a drunkard after middle life; children born to him before his degradation remained free from the vice of drunkeness, while those born afterward became drunkards.

2. Erasmus Darwin states that diseases inherited from drunkards descend to the third and fourth generations, until, finally, the family dies out.

3. Another observer says that of ninety-seven children of drunkards only fourteen remained free from some defect.

4. Still another maintains that fifty per cent. of

the idiots and imbeciles of great cities are the children of drunkards.

5. The children of drinkers inherit the same or a greater predisposition to nervous disorders than those of nervous or really insane parents. They suffer most frequently in infancy from convulsions and epileptiform diseases.

6. Districts known as "drinkers'-districts" in Europe furnish far fewer good recruits for military service.

7. A law was passed in Sweden against drunkenness, *i. e.*, making it a punishable offence, and since then the number of persons unfit for military service on account of undersize and general weakness has grown much smaller.

8. A distinguished specialist on children's diseases observed ten families of drinkers and ten of temperate parents for a period of twelve years.

The ten drinker-families produced in those twelve years fifty-seven children. Of these, twenty-five died in the first weeks of life, of weakness, of convulsive attacks, or of edema of brain and membranes; six of them were idiots; five were stunted in size, and were of real dwarfish growth; five, when older, became epileptics; one, a boy, had grave chorea, ending in idiocy; five had inherited diseases and deformities, such as chronic hydrocephalus, harelip, and club-foot; two of the epileptics mentioned became, by inheritance, drinkers. Only ten, therefore, of all these fifty-seven, or 17.5 per cent., showed, during youth, normal disposition and development of body and mind.

The ten temperate families produced in the twelve years sixty-one children. Of these, five died in the first weeks, of weakness; four, in later years of childhood, had curable nervous affections; two only showed inherited nervous defects. The remaining fifty, or fully 81.9 per cent., were normal in every way, developing well in body and mind.

My friend, Dr. Vandenburg, has kindly furnished me with a list of forty-four patients treated by him for alcoholism. On examining the notes carefully I find that twenty-five of them had ancestors, or, at any rate, relatives who drank. Of ten of them there was no previous history obtainable. These, very likely, ought to be added to the twenty-five, as it appeared from certain signs that they merely did not wish to expose their family histories.

It is a curious but very general fact, that there exists a sort of instinctive tendency in the members of a family to hide from others as well as from themselves anything that would tell of the defect by a faulty nervous inheritance—I mean an inheritance of defects in the central nervous system. Men do not like to acknowledge the controlling influence of such a fate, and they often instinctively take pains to refer diseases that are unmistakably inherited to very ordinary, accidental, and always different causes. To try to obtain information in such matters from family-members is too frequently a fruitless undertaking. They will often throw impediments in one's way, even leading one into wrong paths; and yet to make a proper diagnosis and prognosis in nervous diseases one must try to learn not only the history of his patient, but also the diseases that are prominent in his family.

But to return to my Vandenburg statistics: four mothers and sisters were tuberculous; one has a father who is very nervous, and smokes incessantly; one has an asthmatic grandfather. Only three have a family record that seems free from all defects. Eleven of them showed tuberculosis or some other lung-difficulty in their families; one had insanity on the mother's side, and of one the father's sister was insane; of one, the uncle and aunt on the father's side were insane; and one had insanity in two aunts on the father's side. There was insanity in the father of one, induced by drink, and in one instance the paternal grandfather drank heavily, the father moderately. In one case the paternal grandfather drank hard and died of apoplexy; the great grandmother was tuberculous and the mother paralytic. In four instances the grandfathers drank heavily, though the fathers were free from the vice.

All of these researches only point the more strongly to the importance of ascertaining the best methods, if there exist any, to check the disease and its ravages.

The establishment of a so-called Keeley Institute in the village in which I reside has brought to my mind with more than common emphasis the subject of treatment of alcoholism, craze for drink, or dipsomania.

It is to be deplored that the State has not created special laws for the legal commitment of drunkards, and erected suitable institutions in which these unfortunates could be confined, treated, and kept not only until well of a debauch, but until their will-power had been reëstablished. The only institution near New York for the treatment of drunkards is not calculated to do all this. There they are simply helped over a spree and set afloat again as soon as sobered and restored to sleep and appetite. Nothing is done to keep them in an appropriate manner for improving or recreating their moral strength, which, after all, is the great point to be worked for. I have sent alcoholic habitués to the insane asylum. This, also, is not a proper place for them, and besides, one has often to strain points to bring such cases before the Commissioners in Lunacy in such a way that they will allow them to be received in an asylum for the insane.

The Keeley system, which I have had much opportunity to observe, has something in it which none of the formerly established systems has ever shown. It tries to reach the mind, and hence to establish on a new basis the dethroned will-power. This is done first of all by an appeal to the patient's honor; and the great success which in the beginning seemed to follow this method of cure was unquestionably due to the fact that the majority of the earliest patients were of the very best class, men willing and anxious to be cured, and whose intelligence was of the better and best type. These patients helped themselves by their desire to be helped. Then there existed a sort of brotherhood among them—a feeling of kindliest interest in each other's improvement. A later arrival, on expressing himself still miserable after a few days' treatment, was strengthened by older patients saying, "It was so with me too, but a few days more will help you." Then, sure enough, in a few days the later arrival would all at once say to himself, "Well, I see these others gave up alcohol; I can do so, too," and he does, and every day carries him farther away from the beverage, and leaves him feeling better and better.

Now, although his mind cured him, he being impressed with the idea that some secret, subtle means has been used to produce this beneficial work, cherishes a growing belief in the marvellous effects of it.

It goes without saying that I by no means advocate the manner of secrecy in which the Keeley system is practised. It is wonderful, nevertheless, to note the many successful cures made by it. What helps to increase in the eyes of the public this success is the ingenious way in which Mr. Keeley himself dismisses his cured patients, or graduates, as he strangely misnames them. Every evening—such is the practice at Dwight—every evening the graduates of that day are requested to step into Mr. Keeley's private office before departing, to receive his final lecture. There he tells them: "Now, gentlemen, remember, I have filled your bodies with a poison inimical to alcohol. If in the next four weeks you return to your old practice of drinking it, this poison which I have introduced into your bodies will kill you by meeting alcohol within you. If you abstain for four weeks, but begin to digress from your present abstemious life, after the fourth week the same poison will make you seriously ill." This is an ingenious plan to make his cases tell on the community, for the patients after their return to their respective homes will be closely watched at first by the people around them; but four weeks escape, and no relapse into dissolute habits takes place. Interest begins to flag, a four-weeks' wonder becomes tiresome, or is no more noticed after another four weeks of continued steadfastness. The best impression is thus left on the minds of the people as regards the Keeley treatment, and Mr. Keeley's clever parting lecture has brought forth the desired fruit.

The great object of my address to you is to rouse this Society into action, to take steps to petition the Legislature to pass the laws I have alluded to, and to vote money for the erection of a building dedicated solely to the restoration of drunkards. How this restoration could be effected, there is no need of bringing plans forward, no matter how long and well matured, until a movement in the direction named has been crowned with success. I feel very strongly on the subject. The compassionate sympathy the condition of drunkards calls forth should impel all of us to forward so good a work as I propose. To institute establishments of this kind will be in the end of immense benefit to the public treasury. Only reflect on the labor power saved by it for the Commonwealth! The skilful mechanic (how often is not the best given over to drink) will be restored to his family, perfectly confident again, and willing to be the breadwinner as of yore.

The unfortunate who, during a crazy spree, has threatened perhaps the lives of people, will no longer go to jail to expiate a sentence in complete idleness, but will speedily be cured of his debauch, and at once resume on remunerative labor in one of these institutions.

It is sad to watch our present system. I will give you just one experience of mine.

A few months ago a prisoner was brought into our jail in a most terrible condition—crazed by drink, with his face beaten into a pulp during self-provoked rows, unwilling to be controlled in any way. The attending physician found him chained close to the floor of the cell, as dangerous and violent as a wild beast. A hypodermatic injection of morphine restored him to his former quiet, and he was soon brought before the court and sentenced to a certain term of imprisonment in the county jail. When the time of his release drew near the judge who had sentenced him requested me to examine him as to his mental condition, for he feared the man was insane, his behavior during his trial having so impressed him. I visited him at once, and found him a most intelligent, wide-awake man, who only a year ago had given himself up to drink, and had ever since lived in constant alcoholic excitement. Deprived of drink, he had perfectly recovered, and felt ashamed of his condition. The jail was not only not the place for him, but it was most detrimental to his moral condition. Thrown into close contact there with criminals of all shades, while his mind was still weakened from the long-continued excessive use of alcohol, the danger

became most imminent that the former drunkard would become a future criminal.

There are people who have no patience with drunkards, just as there are those great masterpieces of virtue who cannot understand how one can ever be led by passion's wild demands from the straight and practical road, whose every step is well calculated beforehand and arranged in an undeviating routine system. But such people are possessed of natures that *cannot* be tempted—cold and self-contained individuals, their virtues are to my mind no virtues at all, for they have never to sustain an onslaught of the evil one. To them I do not turn for coöperative sympathy, but to those scarred in many a battle, won or lost. And it is scarcely necessary that I should portray for such the many ways in which excellent men or women may become almost unconsciously enslaved by alcohol.

Look around you, and see how many homes have been destroyed; how much happiness undermined; how much of grief planted in the hearts of men and women by the unfortunate victims of alcoholic excess, and then you will join in doing this great work in which my whole heart's energies are enlisted.

REPORT OF OPERATIONS UPON HERNIAS.

BY CHARLES S. HAMILTON, A.M., M.D,
OF COLUMBUS, OHIO;
PROFESSOR OF THE PRINCIPLES OF SURGERY, STARLING MEDICAL COLLEGE, AND LECTURER ON CLINICAL SURGERY, MT. CARMEL HOSPITAL.

STRANGULATED HERNIA.

THE operative treatment of strangulated hernia affords one of the best illustrations of the diminished mortality attending surgical procedures since the introduction of antisepsis. If necessary, the sac may be opened with comparatively slight risk of peritoneal infection; and in the majority of instances this step is advantageous, if it is not absolutely necessary. The era of cleanliness in surgery has produced another striking change. The operation is not feared as it was formerly, and on this account is advised at a much earlier period, instead of being regarded as a *dernier ressort*. It is no longer justifiable to resort to prolonged taxis, which may result in additional traumatism to the already inflamed and softened intestine. The unrecorded history of strangulated hernia would doubtless furnish many examples of reduction *en masse*, rupture of gut, and similar catastrophes from long-continued efforts to reduce. The present attitude of the profession might be expressed thus:

So soon as the diagnosis is made, resort to anesthesia with intelligent and gentle taxis for ten minutes, unless it be contra-indicated by stercoraceous vomiting or gangrene. If taxis fail, the anesthetic should be continued and the operation performed at once.

The following group of cases is reported, not with a view to the maintenance of any special method of operating, but in order to record experience in a very interesting and practical branch of surgery:

CASE I.—Mrs. R. J. F., of Columbus, aged seventy-four, had had a small irreducible femoral hernia for five years. On June 23, 1890, while the patient was straining at stool, the protrusion suddenly enlarged. Severe pain was immediately felt in the lower abdomen, and vomiting occurred. During the next few days attempts were made to return the viscus. At midnight on the 25th she was referred to me for operation. At that time she was vomiting occasionally, and there had been no movement of the bowels for three days. Her pulse was 114 and irregular. Her arteries were evidently in a state of calcareous degeneration. Ether was given by Dr. Dennison, and the operation rapidly completed. On opening the sac some blood-stained serum escaped, and a mass of adherent omentum was removed after ligation with strong silk. Partly surrounded by the omentum was a knuckle of small intestine, dark red in color, and with swollen walls; incision of Gimbernat's ligament was necessary in order to return it to the abdominal cavity. The sac was ligated and removed. The patient's convalescence was uneventful in spite of her advanced years and feeble condition. She was discharged from the hospital in four weeks. Hernia eventually returned, but is controlled by a truss, and now causes her no annoyance.

CASE II.—J. McW., of Marion, twenty-three years old, had had an irreducible femoral hernia for two years. On the morning of January 31, 1891, a violent muscular effort was followed by pain at the site of the protrusion and increase in its size. Vomiting commenced at once, and was continued until the evening of February 1st, when I first saw the patient. Dr. L. D. Hamilton, of Marion, had unsuccessfully attempted to reduce under chloroform. The patient's pulse was 115; he was vomiting frequently, and was tympanitic. Under ether, reduction was again attempted, but without success. The usual incision was then made over the length of the tumor, and the sac freely opened. Adherent omentum was ligated and removed, after which a slight incision in Poupart's ligament permitted the return of the discolored small intestine. The peritoneal sac was cut off as near the ring as possible, and the wound closed. The recovery was rapid. The hernia has recurred, but a water-pad truss prevents its descent.

CASE III.—A. D., of Lily Chapel, fifteen years of age, had an undescended testicle in the right inguinal canal. Early in the morning of January 29, 1891, while lifting a heavy basket of corn, he suddenly felt a sharp pain in the groin. During the day he walked five miles. At night the pain became more severe, with vomiting and abdominal distention. Dr. Jewett and Dr. Beach, of West

Jefferson, were summoned, and found an obscurely fluctuating lump in close relation with the retained testicle. Taxis, with the aid of morphine and chloroform, was attempted without success. At daylight on the 31st I found the boy with an irregular pulse of 124, vomiting matter of a slightly fecal odor, tympanitic, and suffering the usual paroxysmal pain between the umbilicus and pubes. There had been no action of the bowels since the 27th. I at once operated. The sac occupied the inguinal canal, and was distended with an ounce and a half of blood-stained serum. In order to expose it, the aponeurosis of the external oblique was freely incised. The testicle was apparently normal. A swollen loop of intestine, nearly five inches in length, and of a red-brown color, was the strangulated viscus, being constricted by the sharp margin of the internal ring. After incision of the ring, and consequent relief to its circulation, the intestine began to recover a more normal appearance, and was returned to the abdominal cavity. At this stage of the operation the patient's circulation became depressed. Free stimulation was resorted to, and the wound was closed after accurate stitching of the divided aponeurosis, no attempt being made to bring the testicle down to its proper location.

After the reduction of the intestine, about six ounces of clear fluid escaped from the abdominal cavity. Notwithstanding the hasty termination of the operation, the patient recovered promptly, passing flatus on the following day, and having a normal evacuation on the second day. At the present time the testicle cannot be felt, having retracted into the abdominal cavity; nor has the hernia at any time returned.

CASE IV.—Mrs. H., of Mt. Gilead, aged sixty-six, had had an irreducible femoral hernia for many years. When I was first called by Dr. Buxton, February 6, 1892, strangulation had existed for twelve hours, taxis having been ineffectual. The protrusion was oval in shape, occupying the right groin; its dimensions, three by six inches. The part was exceedingly tender, and the constant use of morphine had been necessary to control pain. The usual symptoms of strangulated hernia were found, though there had been no stercoraceous vomiting. Ether having been given by Dr. Buxton, operation followed. The sac contained some bloody serum, with a large amount of adherent omentum (the greater part of which was removed), and four inches of the dark-red colored intestine. It was necessary to nick both Gimbernat's and Poupart's ligaments in order to return the gut. After removing a portion of the sac, the remainder was tied close to the ring. Two stitches were then taken to approximate the edge of the enlarged opening, and the wound was closed. The patient recovered with a sinus leading probably to the silk ligature at the neck of the sac. There has been no return of the hernia.

CASE V.—Mrs. C., of Plain City, thirty-six years old, had had a right femoral hernia for a year and a half. It had been strangulated for thirty-eight hours, when Dr. Gardner and Dr. Howland advised operation, after failure to reduce by taxis. She had a high pulse-rate, slight tympanites, umbilical pain, but no vomiting had occurred—possibly it had been prevented by the free use of morphine which her suffering demanded. The sac contained only a knuckle of small intestine of dark-brown color, and much swollen. In this case the constriction was so tight that division without injury of the gut was a matter of some difficulty. The sac was readily excised, and the patient recovered. She is now perfectly well, and wears a truss, although the hernia has not descended since the operation, March, 1892.

CASE VI.—H. M., of Columbus, forty-two years old, had for some years worn a truss because of a right inguinal hernia. On December 17, 1891, while working without his truss, he lifted a heavy weight, and felt something give way in the groin. Intense abdominal pain soon followed, with the symptoms of strangulated hernia. During the day his physician, Dr. Dumm, made efforts at reduction under an anesthetic, but without success. At 10 P.M., the patient was brought to Mt. Carmel Hospital for operation. An incision was made from the region of the internal ring well down to the bottom of the scrotum, as the tumor was very large. A considerable amount of turbid serum escaped from the sac, which contained omentum with fourteen inches of small intestine. The constriction was located at the internal ring. A portion of the omentum was removed, and the intestine carefully examined. Its walls were greatly swollen, and it was almost black in color. The constriction was divided, and the intestine wrapped in warm cloths. Before many minutes there were signs of resumption of circulation, as shown by change of color, and it was then decided to return the gut to the abdomen. It was a question in the mind of the operator at this time whether it would recover its integrity. As usual, the sac was removed and the wound closed.

The following evening the patient's bowels moved freely, and his condition was good until the 23d, when it became necessary to give him morphine occasionally on account of abdominal pain. On the 27th a small fistula formed in the upper part of the incision. From this date until his discharge, on January 15th, he was subject to attacks of pain in the right inguinal region, and after returning to his home he acquired the morphine-habit. Before leaving the hospital, abdominal section, with correction of any faulty condition that might be found, was advised, but his consent could not be obtained.

This man died eight months after operation. The fistula had nearly closed, but the combined effects of fistula and opium, with a constitution impaired by excesses, carried him off.

It is possible that after its return to the abdomen, the strangulated and inflamed intestine became adherent to surrounding structures in such a manner as to narrow its caliber, and that thus it continued to act as a partial obstruction to the passage of intestinal contents. A secondary operation, if permitted at an early date, might have permanently relieved him.

CASE VII.—Mrs. J. D. E., of Columbus, aged

sixty-five, was seized with severe abdominal pain and vomiting on the morning of April 13, 1892, while making some unusual muscular effort. Dr. Coleman saw her on the following day, and found the symptoms of strangulated hernia, with a small, painful tumor in the left groin. The patient had had no rupture until the time of this attack. The taxis having failed, at 6 P. M., on the 15th, operation was performed without difficulty, the hernia being femoral, and containing small intestine with omentum. The recovery of the patient was retarded by intercurrent disease. There has been no return of the protrusion.

RADICAL CURE.

CASE I.—W. E. of Moxahala, twenty-five years of age, had an undescended testicle, with incomplete hernia in the right inguinal canal. The testicle was so sensitive that no truss could be worn; the hernia was growing larger and causing much annoyance. Operation was carried out at Mt. Carmel Hospital, June 15, 1889. The testis was atrophied, and hence removed. The sac was then dissected free from its connections, and McBurney's operation for radical cure completed. The wound healed rapidly, and the patient was discharged a month later. He writes that he has had no recurrence, and does not wear a truss, although he has been advised to do so.

CASE II.—Mrs. K. S , Columbus, aged fifty-two, had had a right inguinal hernia for thirteen years. For a somewhat shorter period irreducible umbilical hernia had also existed. She was a large, fleshy woman, the mother of six children. The protrusion in the groin was fourteen inches in length, and four in diameter, and could not be restrained by a truss. It frequently became incarcerated, and required taxis, with prolonged rest in bed, to effect reduction. McBurney's operation was advised by Dr. Lippit, and performed by the writer in June, 1890, followed for the time being by cure. The patient was advised to wear a truss in order to prevent a relapse, but failed to do so. Within the last two months there has been some sign of recurrence.

It is interesting to note that the umbilical hernia became larger after the operation, and has remained so up to the present time.

CASE III.—Mrs. H. L., of Lancaster, aged fifty-four, underwent operation in February, 1890, for the cure of umbilical hernia of twenty years' standing. The rupture was reducible, the aperture being half an inch in diameter. Operation was advised for relief of distressing gastro-intestinal symptoms incident to the hernia. After removing adherent omentum, and a return of the large intestine to the abdominal cavity, the sac was ligated and cut off short as possible. The edges of the ring were then approximated by a purse-string suture of strong catgut. Additional wire sutures were inserted to relieve tension on the catgut during the healing process. The patient was discharged in five weeks, and the rupture has not returned.

In all of these operations the usual antiseptic precautions were observed. Whenever the condition of the patient permitted, radical cure of the hernia as well as relief of strangulation was sought. The favorable results may be attributed largely to the promptness with which, in the several cases, the general practitioners recognized the condition and urged surgical interference to prevent an otherwise fatal issue.

Operations for the radical cure of hernia are only indicated in special cases, because, as a rule, the cure is not permanent from any of the generally recognized methods.

The following conditions would seem to justify its performance:

1. When the hernia is irreducible and painful.
2. When the hernia is very large, and cannot be controlled by a truss.
3. When the neck is so small that there is constant danger of strangulation.

In all cases a truss should be worn after operation in order to prevent relapse.

THE REASON WHY THE NECK OF THE FEMUR DOES NOT BREAK.

BY BENJAMIN T. SHIMWELL, M.D.,
ADJUNCT PROFESSOR OF OPERATIVE SURGERY, MEDICO-CHIRURGICAL COLLEGE, PHILADELPHIA, PA.

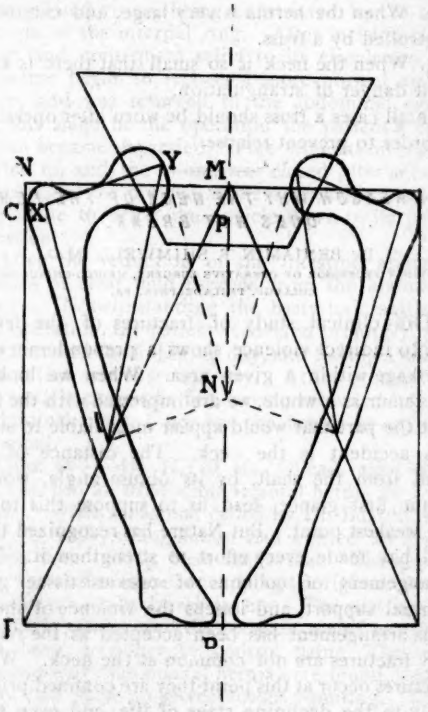
THE clinical study of fractures of the femur due to indirect violence shows a preponderance of breakage within a given area. When we look at the femur as a whole, we are impressed with the idea that the part that would appear most liable to suffer this accident is the neck. The distance of the head from the shaft, by its obtuse angle, would, at the first glance, lead us to suppose this to be the weakest point. But Nature has recognized this, and has made every effort to strengthen it. The arrangement of columns of osseous tissue gives unusual support, and lessens the violence of shock. This arrangement has been accepted as the reason why fractures are not common at the neck. When fractures occur at this point they are confined principally to the declining stage of life, and even then this is, no doubt, due to osseous degeneration and consequent change.

Granting that every provision has been made to strengthen the neck, can we, on careful examination of the femur, say that it is in any other and better manner enabled to hold the trunk? Will not a tubular column stand more direct pressure than any mechanical apparatus constructed on the same principle as the neck of the femur, providing the same comparative size is maintained?

Nature has made no part of the economy by chance. Perfection was reached by means extending over long ages. The very angle which the neck of the femur takes is the keynote in the argument against itself as a factor, as far as strength is

concerned. It is on the ground that all parts of the body are based on definite and distinct laws that I propose to demonstrate by a problem in mathematics that fractures of the femur taking place in the shaft, and not in the neck, are governed by distinctive laws. It is not so much a question of the strength of any part of the bone as it is that of the impact of forces at a given spot.

An examination of the annexed figure shows the presence of two major rectangles and four right-angled triangles, and two minor rectangles and four right-angled triangles. One side of the major rectangles is made by the line of the center of



gravity. The base is formed by a horizontal line extending from great trochanter to great trochanter; then another line is dropped from the outer side of the great trochanters, parallel with the line passing vertically through the center of gravity. These are joined by a horizontal line, parallel with the base, through the knee-joints. This gives the two major rectangles. Then starting at M we carry a line to F, which divides the rectangle into two right-angled triangles. If we now draw a line through the center (Y) of the head of the femur, we find that it strikes the shaft of the femur on a level with the neck at its junction with the shaft (X). This line is carried to the center of the axis of the femur, and then down its length to the point of bisection of the femur, I, made by the hypothenuse of the major right-angled triangle. Then carry a line parallel with the base to N, which strikes the center of gravity, one of the sides of the major rectangles, then up to Y, parallel with X I, and we have a rectangle similar to either of the major rectangles. Then a line drawn from Y to I gives the hypothenuse of two right-angled triangles, both similar to the major right-angled triangles.

The value of the figure lies in the modification of the force of impact by the presence of certain definite laws.

The patient falls either on feet or knees, the force in the illustration being a combination of the weight of the body and the resistance of the object struck. A force travelling to the center of gravity would be the sum of the weight of the body and the resistance of the object, and therefore the impact at the base would be as the sum; consequently the neck of the femur would break, but the presence of the hypothenuse of the major right-angled triangles meeting at the base modifies the impact according to the rule that governs force applied obliquely. In the present case the force is applied in the direction F P, under the angle F P C, against the surface M V. Resolve F P into F C perpendicular to M V, and F D parallel with it, then F C will be the absolute effect of the force, and F P—F C is the loss. To prove the value of this, which applies to the body as a whole, the presence of the same angle in the minor triangle, in which the force is I Y, demonstrates it when applied to the femur proper; consequently, instead of the neck of the femur having to resist the whole force, it is modified, and the explosion or resultant takes place at another point.

The place of explosion is proved by the law: "Two forces not parallel, and applied at different points, may have a resultant, if they lie in the same plane. It is found by extending the lines of direction until they intersect."

The hypothenuse F P of the major right-angled triangle, by the direction of the force, is applied at the center of the base-line M. This is the force applied to the body as a whole. The point of application of the force in the minor angle is at the head of the femur. These forces are not parallel, but on the same plane, the point of application being different. Therefore, the line of the minor triangles, Y I, intersects the line of the major triangles, F P, at the middle of the femur; consequently, the resultant of the force is at this point, and the femur breaks at or about the middle of the shaft.

1253 S. SEVENTEENTH STREET.

OF 1837 cases of cholera among the workmen employed in the breweries of Hamburg, Altona, and Wandsbeck, there were but two deaths—a percentage of 0.12.

A NEW MEASUREMENT IN THE STUDY OF FEVER.

BY LOUIS F. BISHOP, A.M., M.D.,
OF NEW YORK.

IT has occurred to me that in the mensuration of fever we are deficient in terms. Since the beginning of medicine the duration of fever has been observed. More recently we have come to measure its height. It still remains for us to obtain a unit to record duration and height, when considered together.

Not long ago electricians were confronted in a similar way by the need of a unit to express current.

They said empirically that the current produced by one volt against a resistance of one ohm, should be called an "ampère."

In like manner, let us say that the amount of febrile disturbance produced by an elevation of the temperature of the body one degree for one hour, shall be called an "hour-degree."

Thus we have a unit in terms of which we can express the duration and height of any febrile movement.

In the usual graphic method of recording temperature, by means of a curved line upon a chart, if the height of the curve above the normal line represent the elevation of temperature, and the horizontal distance travelled by the curve represent the progress of time, then the area of the chart included between the curved line and the normal line will represent the number of hour-degrees of fever to which the patient has been subjected. Thus an elevation of temperature of one degree for twenty-four hours equals twenty-four hour-degrees. An elevation of two degrees for fourteen hours equals twenty-eight hour-degrees. An average elevation of three degrees for three weeks equals 1512 hour-degrees. If, during twenty-four hours, the temperature fall regularly from an elevation of two degrees to normal, the patient has suffered twenty-four hour-degrees. If the idea be clear, there can be no advantage in multiplying examples.

I am confident that this new quantity, when taken in conjunction with the records already in use, will be of material assistance in the study of cases of fever and of their treatment.

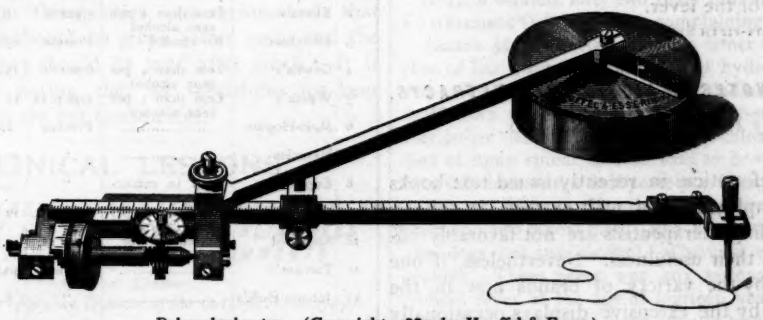
The estimation of the number of hour-degrees represented by a fever-chart offers inherent difficulties. The mensuration of so crooked a figure may well appal the unmathematical physician.

I have devised an approximative method.

In every temperature-chart the printed squares have a definite value in hour-degrees equal to the number of hours apart of the perpendicular lines multiplied by the number (usually a fraction) of degrees apart of the horizontal lines.

Rule: Count the number of whole squares included in the fever-area, and add half the number of squares only partially included. Multiply this number by the value in hour-degrees of one square, and the result will be (approximately) the number of hour-degrees represented by the curve.

A much better method is by the use of an instrument which was brought to my notice by Mr. John A. Roebling, C.E., of New Jersey. The polar planimeter is an instrument used by engineers to measure the area of any figure, no matter how irregular. The instrument is shown in the accompanying illustration.



Polar planimeter. (Copyright, 1887, by Keuffel & Esser.)

The chart being placed upon a flat surface, the needle is passed over the circumference of the figure, and the area is read directly from the instrument in square inches, or for whatever unit the instrument has been set. Having the area of the figure, it is an easy matter to reduce it to hour-degrees. In this way all the charts of a long case can be measured, and the total taken at one reading from the instrument. The value of our results will depend upon the accuracy of our charts. To obtain a curve of much value the temperature should be taken every four hours.

This estimation of the total amount of fever will be of especial value in checking the undue statistical value given to cases with high maximum temperatures which are often due to unimportant causes.

Though the application of this method is chiefly

to the study and comparison of series of cases of which careful charts have been kept, it has an immediate lesson for every-day work.

In any febrile disease the comparison of the number of hour-degrees, from day to day, will convey a much clearer idea of the progress of the case than the mere inspection of a chart, or perhaps of a list of numbers.

After all, the importance of the matter is to bear in mind, from day to day, not only the present condition of our patient, but also what he has already endured.

A procedure which would be proper and useful to a patient in the latter part of an attack of enteric fever, who had endured 1000 hour-degrees, might be fatal to one who had endured twice as many.

Let us, then, consider not only the degrees, but also the hour-degrees; not only the fever-height, but also the fever-area; not only the quality, but also the quantity of the fever.

36 WEST THIRTY-FIFTH STREET.

ANALYTIC NOTES ON LIQUID MALT-EXTRACTS.

BY HENRY LEFFMANN, M.D.,
OF PHILADELPHIA.

FROM brief notices in recently-issued text-books as to the employment of malt-extracts, it appears that the leading therapeutists are not favorably impressed with their usefulness. Nevertheless, if one may judge by the variety of brands now in the market, and by the extensive displays occasionally seen in the show-windows of drug-stores, it must be inferred that either physicians are very liberal in prescribing these preparations or the public has acquired a strong tendency to their use.

It seems advisable, therefore, to make some comparative analytic determinations and some inquiry as to how far any useful physiologic effect may be obtained from them. The primary motive leading to their employment is doubtless to secure the starch-digesting power which is active in malt, due, as is well known, to the enzyme diastase. This body is, however, somewhat sensitive to chemical influences. Its activity is quickly destroyed at certain temperatures, and suspended, if not destroyed, by many substances of the antiseptic class.

It has not been deemed necessary to include in the examination the solid or semi-fluid extracts. These possess diastatic power, are free from objectionable ingredients, such as alcohol or salicylic acid, and by their very nature are not likely to be used except under medical advice. The extracts prepared by the Maltine Co., Parke, Davis & Co., and the Trommer Malt Co. possess decided starch-converting power, and evidently contain notable amounts of diastase. The liquid extracts are mostly alcoholic, so that there is a factor in their use that has sanitary as well as medical importance.

The following samples represent, I believe, the principal brands of liquid malt-extracts sold in Philadelphia. They were obtained for me by a retail drug-house of excellent standing, and were all in unbroken packages, in good condition. I learn that at least one of the larger breweries makes a malt-extract which is furnished to retail druggists in quantity, with a label bearing the druggist's name. I have designated this as "Trade" extract (No. 13). It apparently finds considerable sale.

No.	Brand.	Claims.	Alcohol.	Solid ext. grms. to 100 c c.	Salicylic acid.	Diastatic effect.
1	Blair's	No alcohol	None	16.06	None	None.
2	Evans's	Less than 4 per cent. alcohol	3 per ct.	5.35	"	"
3	Dukehart's	No alcohol	Present	25.22	Present	"
4	Genois's	Less than 4 per cent. alcohol	6 per ct.	15.4	None	"
5	Wyeth's	Less than 3 per cent. alcohol	2.98 p. ct.	14.1	"	"
6	Malt-Hopine	.....	Present	8.97	Present	"
7	Hercules	.....	"	10.23	None	"
8	English	Rich in extractive	"	5.24	"	"
9	Wampole's	A trifle over 4 per cent. of alcohol.	7.7 per ct.	12.89	"	"
10	Standard	Absolutely free from alcohol	3 per ct.	9.58	"	"
11	Tarrant's	.....	Present	10.24	Present	"
12	Johann Hoff's	.....	"	8.44	None	"
13	"Trade"	Highest per cent. of extract and lowest of alcohol of any malt extract in use.	3 per ct.	5.1	"	"

The foregoing table does not require much comment. It shows that in three of the brands, Dukehart's, Malt-Hopine, and Tarrant's, a most objectionable ingredient, salicylic acid, is present. This substance, apart from the fact that the commercial article is decidedly poisonous by reason of impurities, is especially objectionable in a malt-extract, for it interferes with several of the digestive ferments. Three of the brands, Blair's, Dukehart's, and Standard, make a special claim for freedom from alcohol, but only the first-named justifies this claim. The claim for richness in extract is seen also to be not substantiated in the two cases, English and "Trade," in which it is made.

As might be expected, no diastatic power was observed in any of the samples. For an exact determination of relative diastatic power it is necessary to make conversions under strictly analogous conditions, in the presence of excess of starch, and measure the sugar formed; but for the determination merely of the presence or absence of active diastase

a qualitative test suffices. It was found that with each of the liquid extracts several hours' action at a moderate temperature was insufficient to convert even very small amounts of starch. In some instances measurements were made of the sugar, and it was found that none was formed by the action on starch, the Fehling figure for the liquid after treatment with starch being the same as that before treatment. As in the case of one of the samples, "Standard," such positive claim is made—the advertisement stating that it is "absolutely free from alcohol"—two samples were tested, and alcohol was found in both.

It is apparent from the foregoing assays that the liquid malt-extracts are mostly beers, that they have but little if any value as either food or digestives, and that several of them are positively injurious. It is a fitting commentary on the situation to note that of two most distinguished American authorities on therapeutics, one recommends that malt-extracts should be given before meals and the other that they should be used after meals. It is worth while noting that as substitutes for beer these extracts are not economical.

CLINICAL LESSONS.

HYSTERIA; PSYCHIC ANÆSTHESIA FOR TOUCH; PSYCHIC ANOSMIA; PSYCHIC BLINDNESS IN ITS VARIATIONS, WITH COMMENTS.

Clinical Lessons:
Infirmary for Nervous Diseases of the Orthopædic Hospital.

BY S. WEIR MITCHELL, M.D.,
OF PHILADELPHIA.

[Reported by CHARLES W. BURR, M.D.]

HAVING been struck by the vast mass of interesting and illustrative or strange cases which pass under my eyes at this service and are lost in our gathering note-books, I have made arrangements to utilize a part of them for a larger audience. You are aware that the out-service in this hospital is carried on by the physicians-in-chief, and the care and method of it must, I think, impress one familiar with out-services as somewhat unusual. It has enabled us in the past to produce the many remarkable studies that have become associated with this comparatively small hospital. I need only remind you of the essays of Morris J. Lewis, on Chorea; of Sinkler, on the Palsies of Childhood; of Osler, on the Cerebral Palsies of Children; and of Hinsdale, on Station in Health and Disease.

We have shown, too, that even in hospital-wards the *Rest-treatment* is possible for the poor, and the statistics of such therapeusis, with the singular success that has attended it, would be valuable. I feel glad to say, indeed, that while the papers named, and a host of others, illustrate the careful scientific use made of our wards and laboratory, we never lose sight of the first object of these wards—the cure of disease.

These lessons, therefore, will deal not alone with the many singular cases which are likely to come before us, but also with the therapeutic methods that were (at least some of them) in use here before they were thought possible in hospitals, or that, as I think, are better applied and better known within these walls than outside of them. I have no intention of lecturing at length as to the cases we see, or at least I shall rarely so indulge myself.

The first case I ask you to look at to-day is from Scott ward. Watch her as she enters. Her self-conscious, fixed facies will, or should, strike you. Note her ways. At one moment she seems blind; at the next, she moves with swift ease. Her case is full of these oppositions. I read it, and all of it, now, before her, as she is as to it exceedingly intelligent, and will set us right if we err. Dr. Pershing, of Denver, has greatly helped us as to the early history, and saw with clearness of medical judgment into the true nature of this unusually instructive case, which, owing to its changeful features, has greatly puzzled me. I have now reached conclusions which carry my clear comprehension of the case up to a point beyond which the case itself does not sufficiently yield clinical material for a further advance.

B. L., a woman, forty-two years old, married, applied for treatment October, 1892, complaining of blindness.

Family history. Her mother's father was paralyzed. One of her mother's brothers had hydrocephalus, and was epileptic and blind for a year and a half before his death from typhoid fever when twenty-seven years old. Her father died of pulmonary tuberculosis. One sister died of some spinal disease, said to have been caused by a fall three and a half years previously.

Personal history. The patient has two living healthy children; two others died. She has had five abortions. She does not use alcohol. There is no evidence of syphilis. There never was any serious illness except typhoid fever at the age of fourteen years. For many years the woman has been greatly troubled by family matters, and especially in consequence of a child's death.

The *present trouble* began in 1887. Soon after a miscarriage she found that it was becoming difficult for her to recognize large objects, while small ones could be seen easily. In reading, she was compelled at last to spell each word, because she could see only one letter at a time. She was fitted with glasses, but no relief followed their use. As time passed, vision grew worse. As the form-fields narrowed she recognized persons, not by their faces, but by their clothing and general bearing. She could see a small piece of silk or a pin upon the floor, but could not recognize large objects.

During the second year she lost, to a great degree, the power of recognizing colors. She could walk perfectly well, and avoided obstacles. During the third year she could still see small objects, but could not tell whether or not a house was completely built, or distinguish a man from a horse. In the fourth year she began to strike against objects in walking, and everything appeared black. She could distinguish between night and day, and even between a bright and a dim light.

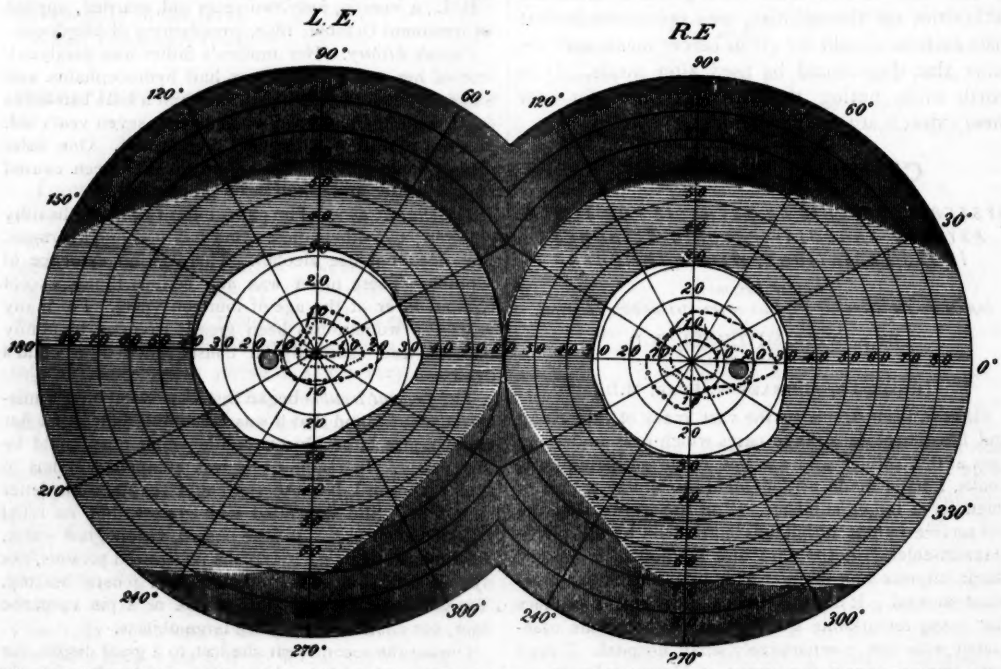
In December, 1891, she was examined and treated by Dr. Howell T. Pershing, of Denver, who has kindly sent us the following additional notes: "She is sent to me as being perfectly blind. Lately she has lost command of words and finds it difficult to carry on a conversation, because words do not come to her mind, and are not understood when heard, though she can readily repeat

them. Recently something was said about a dust-pan and brush. She repeated the words, but had no idea of what they meant until she handled the objects, when the idea came back. She complains of inability to perform the simplest arithmetical operations (but this is inconstant), and also to recognize by touch familiar objects of dress, such as a belt. She consulted Dr. Starr and Dr. Roosa, of New York, in November, 1890. She could not name colors for Dr. Roosa, but a few days later sorted worsteds correctly for Dr. Charles H. Thomas, of Philadelphia,

"*Status præsens.* She recognizes the difference between light and darkness. She cannot count fingers or the windows in the room. The pupils are equal and each reacts to light falling only on the other eye. The ophthalmoscopic appearances are normal. An interrupted galvanic current of one milliampère applied to either side of either eyeball gives a distinct subjective flash. The examination of the other special senses, in all their forms, general sensibility, motion, and the reflexes, shows nothing abnormal. She is not led, and in going out of a room finds the door-knob without feeling for it, though not always. She improved under treatment by massage, electricity, iron, quinine, and strychnine, and moral means. Just before leaving the hospital she told me that she had thought she was totally blind, but she knew now that she could not possibly have been so, because she was in the habit of doing many things for which sight was absolutely necessary. This statement was volunteered as the result of her own reflection. After careful study of the case I was certain it was hysterical." (The accompanying diagrams show the fields of vision taken by Dr. Pershing.)

The improvement in her condition that took place while in Dr. Pershing's care soon disappeared under the stress of family trouble.

Present state (October, 1892). The face, when at rest, is vacant and expressionless. The woman moves about the room with apparent ease, and rarely stumbles against an object. While her gait is not that of a blind person, it also is not that of one with normal vision. When any object is put before her eyes she says she cannot tell what it is. On being told to cross the room and speak to a gentleman standing there, she goes in the proper direction, but is greatly surprised to find, on hearing the supposed man speak, that it is a woman. When a watch is given her and she is asked to tell what it is by touch, she fails. If, however, it is put near enough to her ear for her to hear the ticking, she names it immediately. She fails to recognize a clothes-brush by touch, but when she hears me use it, says: "It is what you brush clothes with—a clothes-brush." The same is true of a finger-brush, except that she calls it a hair-brush. She cannot at first recognize a key by touch, but on being told that it has to do with a door, says, rather doubtingly, "It is a door—door-knob," and then quickly corrects herself, saying, "No, it is a door-key." She fails entirely to recognize a knife by touch. On being given a pencil she calls it a penknife, and adds, "It is what you write with," and does not seem to be aware of her error. At one examination she was entirely unable to tell coins or even to recognize that they were metal, but the next day she recognized a five-cent piece after considerable difficulty, and then quickly told quarters, halves, and dollars. She could not, however, distinguish between a one-cent and a five-cent piece.



Diagrams illustrating the contraction of fields of vision. The continuous line indicates the extent of the form-field in this patient, the broken lines that of the color-fields—blue, red, and green—in the order named. The test-papers were 2 c.m. square.

A pen-holder, with pen attached, she calls a pen. A plate she names properly, but calls a tumbler first a plate, then a bowl, and finally a tumbler. A pin, a needle, a book, a pair of scissors, and a piece of paper she knows instantly by touch, but sometimes not at all. She says that a ball put in her hand is round. when asked its shape, and recognizes a piece of cardboard cut in the form of a circle. She calls a triangular card three-cornered, but all rectangular cards are to her square. An oval she sometimes calls square, sometimes round. After being told several times what an object put in her hands is, she remembers it and answers correctly several days later.

The sense of contact is perfect. There is no anæsthesia. She immediately responds when touched, and can tell the point of a pin from the head, always answering properly "dull" or "sharp." She cannot, however, localize sensation, so as to name the fingers, but can put a finger correctly on the place touched. The pain-sense is normal. The temperature-sense is normal.

If salt or sugar be put upon the tongue, she names the former and says the latter is sweet like candy or sugar, and taste seems to be as to even more delicate flavors normal. Given benzine, cologne, alcohol, and oil of turpentine to smell she claims to recognize them as different, but cannot name them. She says they are unlike. She can write her initials and the first part of her surname fairly well, the latter part being a scrawl. She cannot, however, write any isolated letters except o and c. She describes the latter as o with a piece cut out. If her hand be guided in making letters, she still fails to recognize them. She cannot even write the letters of her name unless she begins at the beginning.

What may be called spontaneous speech—I mean the speech of ordinary conversation—is at the present time normal, though she claims that formerly she misused words. For example, though she may not be able to name an object when given to her, yet if she wants it she will use the proper word in asking for it. Notwithstanding her claim that she has forgotten how to spell, she spells simple words correctly. She also performs simple arithmetical problems correctly. She is nervous, depressed, and at times lachrymose.

Dr. de Schweinitz has examined her eyes and reports as follows: "There is divergent squint in the right eye. The pupils are large, reacting slowly to light; the right very sluggishly. The discs are grayish-red. The veins are full; the arteries are small—the smaller in the right eye. There is lack of fixation, but the patient sees light in all directions. The right eye open (the left closed) perceives objects to the left of the median line and sometimes in the middle, but not to the right. The left eye open (the right closed), perceives objects to the left and in the median line, but not to the right. There is partial right lateral hemianopsia. Given cards to sort, she matches blue ones correctly, but confuses red and green and all others. It was impossible to take the color-fields." All symptoms are worse during menstruation.

REMARKS.—A few preparatory words may make easier for you my after-explanations. We associate with known objects their possession of certain qualities of dimension, form, texture, color, etc. These objects are mentally classified and labelled—a pencil, a box, a hat, and so on. When, again, we see or handle one of these objects, and find by sight or touch that it possesses a group of qualities, we must determine on the label, after swift comparison with our museum of already collected complex memories of things already seen, or handled, or both.

It will help us to look at this problem in the most simple form. When we examine by sight or touch a familiar object, a single hint, as it were, may suffice, as the tick, which suggests a watch. If the object be very novel, or we puzzled, the examination as to the determinative properties and their associations and degrees may be long and difficult. We store away these acquisitions for comparison in certain cerebral centers, visual or tactile, or both.

As regards olfaction, the questions the examinative sense can ask and answer are limited. Usually, in most of the non-pungent odors, one single quality is perceived, and from it the individual reasons by comparison with past memories of scents, and declares the label he is accustomed to assign to the odor in question. This is very simple, compared to the complexity of the properties, and their variation in degree and amount, by which visual and tactile recognitions are made.

In persons who are "*mind-blind*," as Munk called it, "the thing put before them is seen, but suggests no corresponding psychical idea." Now what is here meant by being seen is one of two things, or both together. The thing seen may be present to the man as an image is to a mirror, for the mirror has no memory, and cannot compare the present with the past; or else it is meant that besides this the object so seen may present recognized qualities, but that the patient has no power to place these for comparison with those of other periods. In the one case he merely sees the object; in the other he defines its qualities. In neither case can he label the object or say what use it has, although he may occasionally do this latter, even when he cannot name it. The object may be seen, its qualities compared with older memories, its nature or use be thus known, and yet the power to label it with the vocal sign we call a word be lost.

These sets of conditions are all seen in this case at times. Thus, I blindfold the woman, and offer to her nose vinegar, cologne, asafœtida, valerian. She says they are different; does not take one for another. In other words, she does not say all alike are odors without difference. But a clear perception of the single quality so felt as different in each cannot be lodged in relation to former knowledge for comparison. Hence it has no distinctiveness and cannot be labelled.

It is interesting to study this simple case, and then that of sight. Here the partial general blindness and the added hemianoptic imperfection complicate matters, and these conditions vary from day to day. You will remember, also, that all color-sense is dead, except as to blue, and that the form-field is much contracted. Still, at times she can see the hands of a watch—not, however, so as to tell the hour. At her best moments, she may appreciate qualities sufficiently to say that one thing is larger than another, but not so as to say that this is round or square. At these times she is able to distinguish one person from another, but never to label them until they speak. In her worse ocular states, she cannot distinguish any form of qualitative difference. You will remember that

Dr. Pershing describes her as having been at one time word-deaf, as now she is word-blind.

This trouble is better known and more often seen than the yet more curious form of defect as regards touch. Remember that she can tell heat, cold, touch, pain in all degrees. Occasionally she spontaneously describes a test-object; more often she does not, and yet is able, as the stated inquiries show, to answer correctly all the queries competent to describe an object. Very often the final question, What is it? she cannot answer; or else, and rarely, says what it is for, but not its name. At other times she cannot reply as to the qualities as told by touch alone, or tell scissors from a corkscrew, a book from a watch; and yet tact is perfect. This corresponds to mind-blindness. She is mind-touchless. There is psychic anæsthesia as to touch; or, to be more accurate, either this is true or else she has lost the power of mentally comparing new sensations with the stored memories of those long acquired.

I have not spoken of the localities involved in this triple loss. As to this, our knowledge is still incomplete, and cases of hysterical representation of these singular symptoms are least of all suitable to help us. And certainly this patient is an hysterical illustration of mental incapacities to use the information won through smell, sight, and touch; and, as I am sure such cases are very rare, I have thought it worth while to state for you the reflections which it has brought to my mind. Dr. Pershing had reached a like conclusion early in the case. Of course, these cases all have alexia and agraphia. It has been suggested that the various memorial incapacities, such as the total loss of knowledge of localities or of individuals, may be limited forms of mind blindness, as if one room in the many mansions of memory were suddenly walled up and blocked; but these are, I think, yet more complex conditions of psychic disorder, and only a part of them may fairly be referred to the fount of mental trouble which this case exhibits in so many varieties. Finally we need a better term than *mind-blind*, and a good word for the corresponding condition in which touch and smell are involved.

It has seemed to me that all of these curious states of consciousness as to objects seen or felt, may be represented in the changing psychic development of a child—objects seen in early life are first represented as on a mirror; later, the qualities are defined; and lastly, these are labelled.

MEDICAL PROGRESS.

A New Operation for the Radical Cure of Hernia.—O'HARA (*British Medical Journal*, No. 1667, p. 1279) reports the employment of a new procedure in the operative treatment of hernia. After the preliminary incisions are made, and the vas deferens is freed, a long, strong carbolized gut or sterilized silk ligature is tied around the neck of the sac; a second ligature of finer material is placed about a quarter of an inch lower down, and the neck of the sac is divided between the two ligatures. The index finger of the left hand is then introduced as far as possible into the inguinal canal, in front of the peritoneum, and, there being no important structures between the tip of the finger and the abdominal parietes, an incision is made through the skin only, from without, at a point corresponding with the tip of the finger within. This point is selected for fixing the stump, and is in most cases from two to two and a half inches above the internal abdominal ring. A guarded needle, threaded with one of the long ligatures attached to the neck of the sac, is now passed up the canal on the finger to the point selected for fixing the stump, and driven through the parietes. The needle, having been unthreaded, is withdrawn, to be threaded again with the other end of the ligature, and is reintroduced into the canal, and brought out at a point a little above that at which the first was brought out. The two ligatutes are then firmly tied, the ends cut off, and the sac is thus secured. A decalcified bone drainage-tube is now introduced into the canal, and the margins are laced together over it with silkworm-gut ligatures. The superficial wound is brought together with horsehair, and an antiseptic pad is applied, and kept in place by means of a spica bandage. The plastic inflammation resulting from this procedure causes a sufficient narrowing of the canal to prevent a recurrence of the hernia. The neck of the sac, which had moulded itself to the canal, is removed to a safe distance, and cannot encroach upon the orifice during the process of narrowing, and new structures overlie the internal opening. The bone drainage-tube, lying as it does alongside of the vas deferens, prevents any undue pressure being made upon this when the margins of the canal are laced together, and its presence causes an aseptic irritation, favoring a mild inflammatory process, and at the same time acting as a drain, should drainage be necessary. The opinion is expressed that the operation may be safely undertaken as early as the twelfth month of life, if the hernia is so large as to affect the child's health, or that a truss cannot be borne. The operation has been performed sixty times in males ranging from fourteen months to seventy-five years of age, and was in all cases followed by recovery, and none required the reëmployment of a truss or other abdominal support.

The Etiology of Whooping-cough.—At a recent meeting of the Berlin Medical Society, RITTER (*Deutsche med. Wochenschrift*, No. 45, 1892, p. 1020) reported that he had succeeded in isolating from the bronchial secretion of a number of cases of whooping-cough a diplococcus which he believes to be etiologically specific. The matters expectorated after a typical paroxysm of coughing were received into a sterile vessel and examined at once. The sputum was washed with distilled water, and the milky-white lenticular masses that were present were picked out and teased. Cultivation on agar developed diplococci, which, introduced into the air-passages of a tracheotomized dog, gave rise to cough and a fatal broncho-pneumonia. The bronchial secretion of this animal inoculated upon another gave rise to transitory illness. The organism is aërobic. It does not develop below a temperature of 86°, or above one of 107.6°, and stains well with the basic anilin colors. It is small, and can, with certainty, be distinguished from the pneumonia-cocci of Fraenkel. The number of organisms seems to correspond with the stage of the disease. In cats and young dogs inhalation of pure cultures of the organism was followed by a cough closely resembling that of pertussis.

THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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SATURDAY, JANUARY 28, 1893.

REVISION OF THE CODE OF ETHICS.

A CORRESPONDENT writing to the *Journal of the American Medical Association* (January 14, 1893), deprecates any revision or modification of the Code of Ethics, and objects to the suggestions embodied in an editorial in THE MEDICAL NEWS of September 17, 1892, on various grounds.

We have no word to say against the Code as it stands, except that it contains unnecessary matter that obscures its meaning, and that its provisions fail, in certain respects, to meet the present requirements of the profession. However, we should approve of the Code as it is were it not that there exists a very vigorously expressed dissatisfaction with it on the part of a formidable minority of the profession. Of course, as a "Conservative Member" says, it would "be gracious for the minority to abide by the general sense of the profession and allow the Code to stand as it is, for it wrongs no man"; but the minority emphatically refuses to act in this gracious manner. In the State of New York, ten years ago, the minority repudiated one of the essential provisions of the Code, and secured the adoption by the State Society and most of the affiliated County societies, of what is known as the "New Code," which provides that "members of the Medical Society of the State of New York and of the medical societies in affiliation therewith, may meet in consultation legally qualified practitioners of medicine." In the State of New York, legally qualified practitioners of medicine include homeopaths, eclectics, botanics, and others who are considered irregular. This action led to the most bitter contest or division in the ranks of the profession that has occurred since our recollection.

It is not logical to assume that the sentiment which so divided the profession is confined to the State of New York. While time has practically healed the schism as far as personal relations of members of the profession to one another are concerned, the old societies in the State of New York are without representation in the American Medical Association, and they include many eminent and valuable members. A blind adhesion to the Code exactly as it stands, in view of the attitude of the minority, is little short of fanaticism, and is hardly less reprehensible than the extreme action of the advocates of the "New Code." It seems to us to be the plain duty of the Committee of Revision to endeavor to frame a Code which will unite the profession and be universally adopted by State organizations. To assume that an overwhelming majority of the profession is opposed to any change in the Code is illogical and not in accordance with the facts. In the State of New York only has there been an expression of opinion on the Code. We have before us a "catalogue of the members of the medical profession in the State of New York, showing their vote on the Code of Ethics," published by the "Central Organization of the New York State Medical Association to uphold the National Code of Ethics," in 1884. The Association seems to have made a careful canvass of the profession in New York, having reached by correspondence 5002 regular practitioners of medicine. The corrected results are the following:

For the National Code	2547
For the New Code	1040
For No Code	239
Unclassified	34
Uncommitted	1142
Total	5002

The "unclassified" include those whose replies were indefinite; and the "uncommitted" those who did not respond to repeated letters of inquiry. As the general result of this investigation, it appears that, out of 5000 regular physicians in the State of New York, one-half gave in their adhesion to the

Code as it now stands; more than one-quarter repudiated the Code; about one-quarter were unwilling to take one side or the other, or were indifferent. Does not this showing indicate so considerable a dissatisfaction with the present Code as to call for serious consideration on the part of the central medical organization of the United States? The appointment of a Committee for Revision of the Code is conclusive evidence that such is the opinion of the American Medical Association.

In the editorial of September 17, 1892, THE MEDICAL NEWS advocated a short Code embodying "rules of conduct that are simple, distinct, and easily understood"; a clear definition of the terms regular and irregular practitioners; and a clause especially which will indicate what is meant by a consultation, and lay down the conditions under which a regular physician may give advice to a patient under the care of an irregular practitioner. The last is the one question upon which the opinions of the profession are divided; and it is the provision in the Code relating to this question which has subjected the profession to criticism by the public on the grounds of intolerance and inhumanity. On this point we suggested the following:

"2. A physician should not meet in consultation with an irregular practitioner, or be associated with such an one in the treatment of a patient; but he may properly examine a patient and give an opinion or advice to the patient or friends, or perform a surgical operation, in the case of a patient under the care of an irregular practitioner, without consultation or professional association with such practitioner."

We still believe that, if some such provision were adopted by the American Medical Association, it would completely heal past dissensions, and do much to prevent differences in the future. At all events, the question involved is one that must be met and fully discussed.

It must be recognized that, practically, the Code is for the profession and not for the public. The public does not care for or read the Code; and, as a rule, the few who have any knowledge of its provisions ignorantly regard it as intolerant, and in a certain sense inhuman. It is not essential that a perusal of the Code should give "pleasure as well as instruction"; but it is essential that a Code should be perfectly distinct and unmistakable in its provisions, like any other code of laws. "A Conservative Member" misquotes us in one regard. We take the ground that: "It (the Code and not the public) has nothing to do with acts on the part of physicians that render them amenable to penal law." The Code is for the regulation of professional conduct; and any professional conduct that would render a physician amenable to penal law, would necessarily be in violation of the Code of Ethics.

We do not discuss the question of revision of the Code in anything approaching a controversial spirit. We have cited the contest in the State of New York as affording the only example in which there has been a decided expression of opinion on the "Code question"; and we hope that the deliberations of the Committee on Revision and the action of the American Medical Association will be so dispassionate and wise that the unfortunate experience of the profession in New York may not be repeated in our own or in other States, or similar dissensions find a place in the proceedings of the Association. We wish it to be distinctly understood, also, that, as between the Old Code, New Code, and No Code, as these terms are understood in the State of New York, we should be in favor of the "Old Code."

THE VIRULENCE OF GONORRHEA.

IT has long been well known that gonorrhea may be attended with various disastrous complications in consequence of the extension of the morbid process by continuity of structure. Thus, in the male there may be epididymitis, orchitis, prostatitis, cystitis, ureteritis, pyelitis, pyelo-nephritis, and, as ROBINSON (THE MEDICAL NEWS, August 7, 1892, p. 149) has shown, involvement of the seminal vesicles; and in the female, besides vaginitis, urethritis, cystitis, ureteritis, pyelitis, and nephritis, there may be metritis, salpingitis, and peritonitis. Not at all rarely, too, the inguinal glands are found to become enlarged and sometimes to undergo suppuration.

The affection inappropriately and ambiguously designated gonorrheal rheumatism has been ascribed to "metastasis," a term that was of the most vague significance until the bacterial origin of the infectious diseases received recognition. In the past it was generally accepted that gonorrhea was unattended with endocardial complications, but there is growing evidence to the contrary. This fact has been insisted on by the late DR. MACDONNELL, of Montreal (*American Journal of the Medical Sciences*, January, 1891, p. 1), and the cases recently reported by RUGG (*Lancet*, No. 3605, p. 772) and

HIS (*Berliner klin. Wochenschr.*, No. 40, 1892, p. 994) support his contention.

Various manifestations referable to the nervous system have also, from time to time, been reported in association with gonorrhea. These have been variously attributed to reflex influences, to peripheral neuritis, and to meningitis and myelitis, but there are few records of post-mortem findings. In this connection LEYDEN (*Zeitschrift f. klinische Medicin*, B. xxi., H. 5, 6, p. 607) has reported an interesting case and refers to others. A man, twenty-seven years old, was suddenly seized with symptoms of myelitis, which, in the course of little more than a week, proceeded to a fatal termination. During life a urethral discharge was observed, and in the secretion gonococci were detected. After death a meningo-myelitis in the dorsal region was found, while the mucous membrane of the bladder and the adjacent peritoneum, as well as the kidneys, presented the evidences of an extension of the inflammatory process. Gonococci could not be demonstrated in the lesion of the cord. In the cases of joint-complication and cardiac involvement, also, it has not been possible to demonstrate unequivocally the presence of gonococci at the seat of the secondary lesions; so that the presumption seems reasonable that these are but manifestations of an intoxication resulting from the absorption of the products of the biologic activity of the gonococci.

The observations here referred to will, in part, explain why in so many cases of chronic valvular lesions of the heart it is not possible to elicit a history of antecedent acute articular rheumatism. Without in the least attempting to belittle the rôle played by rheumatism in the etiology of endocarditis and valvular disease, we venture to express the opinion that the articular disease has been held responsible for many lesions that could readily have been ascribed to other influences. With a growing familiarity with and a more extended knowledge of the nature of the infectious diseases, we are learning to place the etiologic burden of an accumulating number of cases of inflammations of serous structures, together with their sequelæ, upon such diseases and conditions as enteric fever, pneumonia, diphtheria, erysipelas, influenza, and puerperal infection; scarlatina and chorea, by reason of their occult relationship with rheumatism, already belong in this category, and in this connection it is interesting to note that there is a growing tendency to look upon chorea as an infectious disease and naturally dependent upon a specific microbe.

In all infectious diseases, therefore, the possibility of secondary involvement of the serous membranes should be constantly borne in mind, in order that the complication may, as far as possible, be guarded against, and that it receive appropriate treatment should it arise.

A HOSPITAL IN PHILADELPHIA FOR INFECTIOUS DISEASES.

IF personal and political intrigue shall be rigorously excluded from its organization and management, a city hospital for infectious diseases, such as has been proposed by the *Public Ledger*, will be a public benefit.

The removal of the Almshouse from Blockley, leaving the entire plot of ground and such of the buildings now on it as may be properly available to be utilized for hospital purposes only, and the construction of isolating pavilions in sufficient number on the vacant lots still owned by the city in the vicinity of the Philadelphia Hospital, would be the best solution of the question.

The pavilions should be so constructed that they may be destroyed and replaced at appropriate intervals. A special operating-room and a special ward fully equipped with appliances for supply of steam and other necessary adjuncts, such as has been in use until recently at the Children's Hospital, should be set apart for cases of diphtheria and croup.

In considering what is the best means to stamp out diphtheria in the city, and in endeavoring to improve sanitary administration in general, however, it is important that the profession should be united and deliberate; that personal interests, ambitions, or resentments should not be allowed to dictate action or to prevent the best means and methods from being chosen; that all questions of "practical partisan politics" be kept resolutely out of the circle of influence. Only thus can permanently useful results be accomplished. "Dickering" with politicians, medical or non-medical, even for a good end, is like making palliative topical applications in a case of luetic ulceration—it leaves the cause of the lesion to continue its destructive activity faster than the local manifestations can be relieved. Whether the proposed hospitals would fall under the administration of the present efficient Board of Charities, or that of the Board of Health,

is a minor matter. Physicians should insist upon the entire separation of the Health Board from politics, and the appointment to all offices connected with the sanitary administration of the State and city of thoroughly qualified experts, and of such only. Unless we are wise enough and bold enough to do this, neither a hospital for infectious diseases nor anything else we can propose will be of much service.

SELECTIONS.

TOO MANY MEDICAL JOURNALS, COLLEGES, ETC.

WE quite agree with THE NEWS as to its statement of facts. There are too many medical journals; too many journals run solely for the benefit of advertisers, for the advancement of some one or more doctors irrespective of the good of medical art and science. There is a vast amount of material published that would never see print if but one-fourth as many journals were published. Doctors who can write good papers do not receive such compensation as they would if the number of journals were less and their quality better.

However, as we see it, this is the way in all similar matters. Of medical colleges there is a vast surplus over the requirements of the medical profession. The damaging effects on the profession are quite as far-reaching and disastrous as in the case of the superabundance of medical journals.

Of medical men there is a great surplus of the lower varieties. These interfere with the work and destroy much of the success of the better sort.

Of medical books what shall we say farther than that the multiplication of the lower grades is disastrous to all concerned?

So we might continue the list. There is too much poor truck of all sorts in the world. But what shall we do about it? This is the question that has puzzled us for many years. In general, where the carcass is, there the vultures will congregate and satisfy their hunger. To be rid of vultures, it is necessary to have no carcasses. So to get rid of these low-bred and ill-conducted journals, colleges, etc., it will be necessary to prevent the accumulation of material whence they derive their sustenance. This is a task that well may discourage the most enthusiastic reformer. However, much has been done, more is now doing, and the line of march is onward and upward. *Amer. Lancet.*

A CODE OF ETHICS.

THE code of ethics adopted by the American Medical Association has not given satisfaction to a certain section of the consultants and specialists of the State of New York, the reason being that they wanted a free hand, so as to be able to meet any practitioners, and not to be bound by any code of honor. We have some of the same class in this country to whom ethics are distasteful, all being fish that come to their net. It may be that the American code of ethics is not quite in harmony with the temper of modern times, and that it might be revised so as to bring it more in accordance with the spirit of the age, but there cannot be a doubt that when it was originally framed it was an admirable code, just to the patient in whose interests it was promulgated, and just to the medical attendant. It is very true that gentlemen require no codes, but, unfortunately, the medical profession is not all composed of gentlemen. Pains and penalties are required to keep a certain class in the right way, and the fear of professional ostracism acts as a healthy stimulus to right action. Society is controlled by its police; a recognized code, with attendant and prospective punishment for ill-doing, is absolutely required in a profession which provides such open portals, and we trust that the executive of the American Medical Association, even though they revise, may not weaken the honorable code handed down by their forefathers.—*Provincial Medical Journal*, xii, 133, p. 44.

REVIEWS.

ANATOMY. A Manual for Students and Practitioners. By FRED. J. BROCKWAY, M.D., and A. O'MALLEY, M.D. (The Students' Quiz Series.) Philadelphia: Lea Brothers & Co., 1892.

To compress within the limits of some three hundred and fifty pages of a Quiz book the essential facts of human anatomy is a task attended with no ordinary difficulties. In the effort to furnish a series of answers to such questions as "Where is such and such a structure?" or "How is a given organ described?" there is an ever-present danger of condensing too much, or of abbreviating to such an extent that the amount of information actually given may be very superficial. Anatomy is a branch of study of such prime importance that the student cannot afford to form other than an intimate acquaintance with it. In order to succeed in this he must be faithful in his attendance in the lecture-room, patient in the perusal of a standard text-book, and diligent in his work with scalpel and forceps at the dissecting-table. Now, although there is no substitute for these, the Quiz manual has its place as a most useful accessory.

This fact has evidently been appreciated by Dr. Brockway and Dr. O'Malley while compiling the book which they have just written. They claim, however, to present, not a duplicate of already existing anatomic compends, but a modern anatomy. In carrying out this purpose, the descriptions are given in a style which, although terse, is more explicit than could justly be expected of a book that merely essayed to be a compend. Throughout the sections on osteology and arthrology the excellent plan has been adopted of interspersing, in type smaller than that of the main text, the descriptions and classifications of Henle where they differ from those of English authorities, important points in comparative anatomy, and useful information as to function. A summary of the osseous homologies of the upper and lower extremities is a feature which will doubtless prove an advantage. In the section on myology, in addition to the older names for the muscles, those which have been agreed upon by the German Anatomical Society will also be found; and anomalous conditions are given in smaller text. This section, too, is concluded with a summary of the homologies between the two extremities.

The sections on the vascular, nervous, and digestive systems are all that could be desired.

At the end of the book is a glossary giving the pronunciation, derivation, and definition of anatomic terms which will prove of great value. It is to be hoped that it will often be consulted, and that it will be the means of correcting some, at least, of the frequent mispronunciations that one hears.

Altogether, the writers of this manual are to be congratulated upon the excellence of their work, and we predict for it a wide and favorable reception.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By JOHN V. SHOEMAKER, M.D. Second edition, revised and enlarged, with chromogravure plates and other illustrations. Pp. 859. New York: D. Appleton & Co., 1892.

THIS second edition of the Treatise is a decided improvement upon the first edition. A general revision is noticeable, together with the addition of much new matter, most of which is in the line of therapeutics. Of the more recent remedies that have been brought forward in the treatment of cutaneous diseases, the medicated soaps, manufactured on such an extensive scale in Germany, are specially referred to. The author is firmly impressed with the value of the oleates, and gives a long list of these preparations, from which it would seem that they are applicable in many diseases.

Sodium sulfoleate is also mentioned as being useful as a solvent for many drugs, especially sulfur and chrysarobin; and, if its water is driven off, it may be employed as an ointment-base. Lanolin is also esteemed. Hydrastine hydrochlorate, erythroxylon coca, naphthol, thiol, tumenol, and jequirity are all specially mentioned as being useful. The last-named is regarded as a powerful remedy of the utmost value in specific ulcerations, indolent, scrofulous, and epithelial ulcers, and in ulcerating lupus. It is an irritant, and soon sets up severe local inflammation. The pastes are referred to, but the author does not give them the high rank they deserve. Syphilis is taken away from the neoplasmata and classified with the inflammations, between erysipelas and the acute simple erythemata.

In the treatment of that common and often rebellious disease, eczema, a great variety of drugs and formulæ are prominently brought forward—too many, we think. The practitioner will find it difficult to make a selection from the list, so highly praised are most of the remedies. The details as to the mode of application, and the varieties of the disease for which certain formulæ are suitable, might advantageously have been pointed out more definitely. The mass of material, in the way of drugs and formulæ, introduced into this chapter is not sufficiently digested. Something more than a mere enumeration of the drugs is demanded; we should be told as well how to use them to the best advantage. Indeed, this criticism applies to the therapeutics throughout the volume. Too many diverse remedies are cited without the indications for their employment being made sufficiently clear. The practitioner is consequently bewildered, and runs the risk of selecting the wrong remedy for his case. Quotations and references, especially foreign, are abundantly interspersed throughout the pages. The precise sources of the information, however, are not always given—omissions that impair the value of the book as a work of reference. American dermatology does not receive the cordial mention it deserves.

Some woodcuts and several admirable photographs enhance the value of the work. A copious formulary, occupying many pages, constitutes the last chapter. The general appearance of the volume is, in all ways, creditable to the publishers.

SOCIETY PROCEEDINGS.

ASSOCIATION OF AMERICAN ANATOMISTS.

Fifth Annual Session, held at Princeton, N. J., December 27, 1892.

DR. HARRISON ALLEN, of Philadelphia, President; DR. D. S. LAMB, U. S. A., Secretary.

The following were elected to membership: Herbert S. Birkett, M.D., Montreal, Canada; Tracy Earl Clark, B.S., Ft. Plains, N. Y.; J. Milton Greenman, Philadelphia, Pa.; C. A. Hamann, M.D., Philadelphia, Pa.; James W. Hartigan, M.D., Morgantown, W. Va.; George S. Huntington, M.D., New York City; Peter J. McCourt, M.D., New York City; Wm. B. Scott, Princeton, N. J.; Wm. Anderson, F.R.C.S., etc., London, England, and C. S. Minot, S.D.

The Executive Committee, through the Secretary, reported that the circular in regard to information concerning the negro race was nearly ready.

The following papers were then read:

1. "Crania of the Cetacea."

2. "The Human Lower Jaw," by Dr. Harrison Allen, University of Pennsylvania.

These two papers were illustrated by specimens, and discussed by Prof. Herrick, and also by Prof. George Macloskie, of Princeton University.

3. "History of the Development of Bone Tissue;" illustrated by microscopic slides, by Dr. Carl Heitzmann, New York City. Discussed by Professors Macloskie and William Libbey, Jr., of Princeton University.

The President, DR. ALLEN, then read his Annual Address, from which the following quotation is made:

"It is now four years since the Association of American Anatomists was founded with a list of fifteen members. Many were the objections raised when it was proposed to organize a new society. Eminent professors declared that it was not needed; others, while sympathizing with its objects, were convinced that the list of members would be so small that it would be a difficult matter to fill the necessary offices. The fact that an active membership exists of ninety-four persons, representing twenty-two States, the District of Columbia, and the United States Army, sufficiently meets both the above-mentioned objections. It tells us unmistakably that the society is needed, and that not only are the offices filled, but that the Association is recognized as a devoted band of students, whose activity compares favorably with that of other scientific organizations.

"But the work thus far accomplished is but the harbinger of what it is hoped may be undertaken. An attempt at coöperation between the American Anatomists is to be brought before you at this meeting. The Executive Committee will present a plan by which observations on the anatomy of the negro shall be entered upon. It

is earnestly hoped that every teacher and demonstrator of anatomy in the country, whether a member of this society or not, will assist its committee in accumulating observations on this class of subjects."

4. "An Anomalous Development of the Human Sternum," specimen and remarks, by Dr. D. S. Lamb, Army Medical Museum, Washington, D. C. Discussed by Dr. Dwight. 5. "Discovery of an Ossified Thyroid Cartilage and a Supposed Rudimentary Clavicle in an Artiodactyl," by Prof. Wm. B. Scott, Princeton University; specimen exhibited. Discussed by Prof. Cope and Dr. Allen. 6. "Observations on the Psoas Parvus and Pyramidalis," a study of variation, by Dr. Thomas Dwight, Harvard Medical School. 7. "Significance of Percentages in Reversions in Human Anatomy," by Prof. H. F. Osborn, Columbia College, New York City. Discussed by Prof. Cope and Drs. Dwight and Lamb.

3.00 P.M. Session resumed. The following papers were read: 8. "Histogenesis in the Brain, and its Bearings on Development and Decline," by Prof. C. L. Herrick, Dennison College, Granville, Ohio. Discussed by Drs. Heitzmann and Piersol. 9. "The Metapore or Foramen of Magendie," with photographs, by Prof. B. G. Wilder, Cornell University. In the absence of Prof. Wilder, the paper was read by Mr. Clark. Discussed by Prof. Herrick. 10. "Neuromerism and the Cranial Nerves of Ophidia," by Prof. Herrick. 11. "The Insula of the Pig," with specimens. Discussed by Drs. Allen, Dwight, and Spitzka. 12. "Note on Diagrams of the Spinal Cord," by Dr. J. T. Duncan, Toronto, Canada. Read by the Secretary and referred to the Committee on Nomenclature. 13. "Duration of Motion of Human Spermatozoa," by Dr. George Piersol, University of Pennsylvania. Discussed by Drs. Spitzka and Heitzmann.

THURSDAY, DECEMBER 29, 1892.

The report of the Committee on Nomenclature, Dr. Wilder, secretary, was presented. The reading of the report was dispensed with, copies having been placed in the hands of the members present.

The following papers were read: 14. "The Innervation of the Organ of Corti," by Howard Ayers, Ph.D., Curator of the Lake Laboratory, Milwaukee, Wis. Microscopical slides, with remarks. 15. "The Posterior Surface of the Liver; described by Vesalius," by Dr. F. H. Gerrish, Bowdoin College, Maine. Discussed by Drs. Dwight, Allen, and Heitzmann. 16. "Embryos of Bats," with specimen and plates, by Dr. Allen. Discussed by Profs. Cope and C. S. Minot. 17. "Meckel's Diverticulum," by Dr. D. S. Lamb, Army Medical Museum, Washington. Discussed by Drs. Dwight and Minot. 18. "Delimitation of Abdominal Regions," by Dr. E. A. Balloch, Howard University, Washington. Read by the Secretary. 19. "The Need of Agreement in the Limits of the Abdominal Regions," by Dr Gerrish. The last two papers were discussed together by Drs. Dwight, Piersol, Kemp, Heitzmann, and Lamb.

Several motions were made in regard to the disposition of these two papers and the discussion thereon. It was finally decided that, with the consent of the authors, copies should be sent to the committee on this subect of the Anatomical Society of Great Britain and Ireland; and also to the committee of the German Society.

20. "Physical Characteristics of the Kootenay Indians of Southeastern British Columbia," by Prof. Alexander F. Chamberlain, Clark University, Worcester, Mass. Read by title. 21. "Series of Thirty-five Natural-size Photographs of Sections of Human Brain," with brief remarks, by Dr. I. S. Haynes, University of New York.

The following members were present during the meeting: Messrs. Allen, Cope, Dwight, Gerrish, Haynes, Heitzmann, Herrick, Kemp, Lamb, Minot, Osborn, Piersol, Roberts, Ryder, Spitzka, Wortman, and Wright.

CORRESPONDENCE.

A "CANCER-CURE."

To the Editor of THE MEDICAL NEWS,

SIR: An "old woman" remedy for carcinoma has come under my notice within the past few years. Generally these remedies are based on mere superstition and are valueless. I have been very much interested in this one lately, because the old lady with this has succeeded in curing two epitheliomas. I promised profound secrecy, and she told me the remedy. The preparation is as follows: The juice is expressed from a large quantity of wood-sorrel (oxalis acetosella); this is poured into a pewter plate, and the whole placed in the sun and allowed to remain about one week. At the end of this time it has evaporated to a solid mass. This mass is then scraped away, and a part is applied to the diseased surface. Great pain appears in about twelve hours, and a few hours later considerable swelling is developed; both continue for about four days. On the fifth day sloughing begins, and a mass of diseased tissue falls out in one piece; later smaller portions slough way, leaving a clean, healthy-looking ulcer, which rapidly heals.

The juice of the wood-sorrel contains free oxalic acid and acid potassium oxalate. These act on the lead and tin (of which the pewter is composed), forming oxalates of these respective metals. Oxalates of both lead and tin are strongly caustic, and when applied to carcinomatous tissue act, I suppose, in a similar manner as do the zinc and arsenic pastes. I simply bring the above facts before the profession as a matter which may justify investigation.

GEORGE WALKER, M.D.

YORKVILLE, S. C.

THE PREVENTIVE TREATMENT OF TETANUS.

To the Editor of THE MEDICAL NEWS,

SIR: In your issue of December 31, 1892, you publish a very interesting article on "The Preventive Treatment of Tetanus." The article in question is not only interesting, but logical and rational. However, I do not know whether or not Dr. T. W. Simmons, of Hagerstown, Md., wishes to claim originality or priority for his suggestion. It seems to me that such means must have occurred to any physician at all acquainted with the etiology of the disease, and I have no doubt but that many have made use of such means. Suffice it to say, that Dr. J. A. Tarkington and myself, who do the surgical work of the Beltimore and Ohio Railroad in this city, have both used such treatment in all of our cases of traumatism where we have had occasion to suspect even the possibility of the development of tetanus. This we have done for many months on exactly the same basis

that Dr. Simmons very properly lays down. In not a single case where such treatment was used did tetanus subsequently develop. We, however, lacking the olive-pointed syringe which Dr. Simmons suggests, made use of the ordinary hypodermatic syringe.

Sincerely,

CHARLES MILTON BUCHANAN, M.D.,
Professor of Chemistry, Toxicology, and Metallurgy, National University.
WASHINGTON, D. C., January 18, 1893.

REMOVAL OF THE VERMIFORM APPENDIX.

To the Editor of THE MEDICAL NEWS,

SIR: Kindly inform me through the next issue of your paper, *when* and by *whom* the operation for removal of the vermiform process was first performed in the United States, and *who* performed the second one?

MINNEAPOLIS, MINN., January 8, 1893.

[See THE MEDICAL NEWS, August 6, 1892, p. 153; November 5, 1892, p. 531.]

NEWS ITEMS.

The Eighty-seventh Annual Meeting of the Medical Society of the State of New York will be held at Albany, February 7th, 8th, and 9th.

The following provisional program has been arranged:

President's Inaugural Address.

"The Relation, in the Male and Female, of Genital Disease to Mental and Nervous Affections," by Landon Carter Gray, M.D.

"The Epileptic Interval; Its Phenomena and their Importance as a Guide to Treatment," by William Browning, M.D.

"Reflex Disturbances in the Causation of Epilepsy," by William C. Krauss, M.D.

"Mental Epilepsy," by J. Montgomery Mosher, M.D.

"The Development of Epilepsy after Traumatic Injury to the Skull," by B. Sachs, M.D.

"The Treatment of Uremic Convulsions," by R. C. M. Page, M.D.

"The Registration of Midwives," by J. L. Kortright, M.D.

The Relative Value of Certain Obstetrical Operations.

"General Review of the Operations to be Discussed," by Dr. Egbert H. Grandin.

"The Limitations of Embryotomy," by Dr. N. Clifton Edgar.

"The Limitations of the Cesarean Section," by Dr. Robert A. Murray.

"The Anatomical Limitations of Symphysiotomy," by Dr. J. E. Kelly.

"The Clinical Limitations of Symphysiotomy," by Dr. Charles Jewett.

General Discussion, to be participated in by Drs. E. P. Davis, H. A. Kelly, H. C. Coe, and Reynolds.

"Practical Antisepsis and Asepsis," with stereopticon demonstrations (by invitation), by Howard A. Kelly, M.D.

"Epitaphs from the Tombstones of Medical History," with stereopticon projections of many old and rare medical portraits, by Joseph H. Hunt, M.D.

The Management of Suppuration Complicating Tuberculous Disease of the Bones and Joints.

Papers by Drs. V. P. Gibney, Roswell Park, Henry Ling Taylor, and Louis A. Weigel.

The Present State of Knowledge as to Carcinoma.

"The Pathology of Carcinoma," by H. C. Coe, M.D.

"The Etiology of Carcinoma," by Roswell Park, M.D.

"The Value of Internal Medication in the Treatment of Carcinoma," by Jarvis S. Wright, M.D.

"The Results Obtainable from the Use of Anilin Products in Carcinoma," by Willy Meyer, M.D.

"Caustics in the Treatment of Carcinoma," by Daniel Lewis, M.D.

"The Knife in the Treatment of Carcinoma," by N. Jacobson, M.D.

Discussion to be opened by Dr. George R. Fowler, of Brooklyn.

"Tuberculous Epididymitis," by Herman Mynter, M.D.

Newer Methods of Diagnosis and Treatment of Stomach and Intestinal Diseases.

"The Practical Value of the Newer Methods of Examination in the Diseases of the Stomach, with a Consideration of the Indications Given for Diet and Treatment by such Examinations," by Henry L. Elsner, M.D.

"The Methods of Obtaining and Examining the Stomach Contents in Disease for Purposes of Diagnosis," by J. Fuhs, M.D.

"The Disturbances of the Motor Function of the Stomach; Their Diagnosis, Symptoms, and Treatment," by C. G. Stockton, M.D.

"The Physiological Effects of Electricity in the Stomach, the Indications for its Administration and Use in Gastric Disease, and the Methods of Using the Same," by Max. Einhorn, M.D.

Anniversary Address by the President in the Senate chamber:

The Evolution of the American Surgeon.

"Report of a Case of Severe Abdominal Injury Terminating in Recovery," by J. S. Cooley, M.D.

"The Treatment of Inguinal Hernia," by Alex. Dallas, M.D.

"Certain Types of Septicemia Resulting from Abortion," by Andrew F. Currier, M.D.

"Puerperal Sepsis, Its Prevention and Cure," by William W. Potter, M.D.

"Hoarseness," by W. Franklin Chappell, M.D.

"The Diagnosis and Nomenclature of Fevers," by Nelson G. Richmond, M.D.

"Congenital Opacities of the Lens," by William F. Mittendorf, M.D.

"Is Stoerk's Blennorrhea and Laryngitis Sicca One and the Same Disease," by W. Freudenthal, M.D.

State Medical Examinations in New Jersey.—It is officially announced that candidates applying, after the meeting of the State Board of Medical Examiners of New Jersey, to be held in July, 1893, for licenses to practise medicine in that State, will be examined on the following subjects

arranged in sections, as follows, viz.: Sec. 1. Materia Medica and Therapeutics. Sec. 2. Obstetrics and Gynecology. Sec. 3. Practice of Medicine (including diseases of the skin, nose, and throat). Sec. 4. Surgery (including surgical anatomy, and diseases of the eye, ear, and genito-urinary organs). Sec. 5. Anatomy. Sec. 6. Physiology. Sec. 7. Chemistry. Sec. 8. Histology, Pathology, and Bacteriology. Sec. 9. Hygiene and Medical Jurisprudence. Before a license will be issued candidates examined in the first class, *i. e.*, graduates of five years or more, shall obtain a total average of 80 per cent. Candidates examined in the second class, *i. e.*, graduates of less than five years, shall obtain a total average of 75 per cent., providing that in no one section shall the percentage be less than 33⅓ per cent.; in which case, however, should the total average percentage in all the other sections be above 75 per cent., the candidate may be immediately granted a second examination upon that section. Candidates examined in the third class, *i. e.*, non-graduates, who have attended three full courses of lectures in a reputable medical school, shall obtain a total average of 80 per cent.; and candidates taking their preliminary or final examination, shall obtain a total average of 80 per cent. at each of said examinations.

Swallowing a Razor.—There was much excitement in Paris some years ago over "l'homme à la fourchette," a man who had swallowed a fork, which was successfully removed by a somewhat elaborate operation. A still more remarkable case has this week been successfully treated at the Lincoln Hospital by gastrotomy. The following is a brief note which has been furnished to us of this remarkable and interesting case: A woman, aged sixty-nine, in a depressed condition of mind, was supposed to have swallowed a full-sized razor on December 13th. She was admitted into the County Hospital the same day. There were no symptoms, and the presence of the razor could not be determined till December 18th, when the end could be felt at the pylorus. On December 19th vomiting commenced, and Mr. Cant, surgeon to the hospital, operated, opening the abdomen by an incision in the median line; then feeling the razor, and bringing the stomach to the opening, he was able successfully to remove it. The wound in the stomach was doubly sutured, and the external wound closed. Thirty hours after the operation the temperature was normal, the bowels had acted naturally, and there was no unfavorable symptom. The razor, a large black bone-handled one, was somewhat acted upon by its six days' digestion.—*British Medical Journal*, No. 1669, p. 1401.

The Cincinnati College of Medicine and Surgery.—Dr. J. Trush has resigned the Chair of Theory and Practice of Medicine in consequence of ill health, and the vacancy thus created has been filled by the transfer of Dr. E. W. Mitchell from the Chair of Materia Medica and Therapeutics.

Dr. G. A. Fackler, Professor of Materia Medica and Therapeutics at the Women's Medical College of Cincinnati, has accepted the appointment to the vacancy created by the transfer of Dr. Mitchell.

Esmarch, the distinguished German surgeon, celebrated his seventieth birthday on January 9th.

The Fifth District Branch of the New York State Medical Association will hold its ninth annual meeting in Brooklyn May 23, 1893. Fellows that desire to read papers will please notify the Secretary, Dr. E. H. Squibb, P. O. Box, 760, Brooklyn.

The R. I. Medical Science Monthly is the name of a new journal published at Providence, which is intended to make "a monthly review of reform and progress in the medical sciences." Dr. J. Frederick Haller is the managing editor, and he will be assisted by a corps of associates.

Correction.—A paper in THE NEWS of December 10, 1892, on "Abdominal Pregnancy," by Dr. H. A. Coe, contains the statement that the patient whose case was reported "was transferred to an insane asylum, from which she was discharged three months later mentally sound," etc. Dr. Coe wishes us to state that he was misinformed in regard to the subsequent history of the patient, who is still in the asylum.

BOOKS AND PAMPHLETS RECEIVED.

The Soil and its Relation to Health. By Edward T. Nelson A.M., Ph.D. Pamphlet, 1892.

The Medical Properties of Bromo-lithia Water. By W. A. Dixon, M.D. Reprint, 1892.

World's Columbian Exposition. Department of Liberal Arts. Circular No. 9. The Bureau of Hygiene and Sanitation.

A Case of Brain-Tumor with High Grade of Choked Disc. Autopsy. By Lewis H. Taylor, M.D. Reprint, 1891.

Kentucky School of Medicine in the City of Louisville. Register of Students, 1892. Circular of Information, 1893.

A Case of Pneumonia Treated by Transfusion of Blood from a Convalescent Case. By W. E. Hughes, M.D., and W. S. Carter, M.D. Reprint, 1892.

Intestinal Obstructions: Diagnosis and Treatment. By Frederick Holme Wiggin, M.D. Reprint, 1892.

An Experimental Inquiry Concerning Elastic Constriction as a Hemostatic Measure. By Nicholas Senn, M.D., Ph.D. Reprint, 1892.

A Case of Hemorrhagic Pleurisy; Probably Primary Cancer. By Andrew J. Downes, M.D. Reprint, 1892.

Diseases of the Kidneys and Bladder. A Text-book for Students of Medicine. By W. F. McNutt, M.D., M.R.C.S. Edin., L.R.C.P. Edin. Philadelphia: J. B. Lippincott Company, 1892.

Address on Medical Education. By J. T. Jelks, M.D. Pamphlet. Little Rock, Ark.: Press Printing Company, 1892.

Transactions of the Washington Obstetrical and Gynecological Society. Vol. iii. New York: Press of Stettiner, Lambert & Co., 1892.

A Contribution to the Study of Cystic Kidney. By Ludwig Hektoen, M.D. Reprint, 1892.

Diseases of the Lungs, Heart, and Kidneys. By N. S. Davis, Jr., A.M., M.D. Philadelphia and London: The F. A. Davis Company, 1892.

Tuberculosis of Bones and Joints. By N. Senn, M.D., Ph.D. Philadelphia and London: The F. A. Davis Company, 1892.

Report of a Case of Multiple Sarcomata in an Infant. By Frederick A. Packard, M.D. Reprint, 1892.

A Case of Akromegaly, and Illustrations of Two Allied Conditions. By Frederick A. Packard, M.D. Reprint, 1892.

A Plea for Early Diagnosis in the Pelvic Diseases of Women. By B. F. Baer, M.D. Reprint, 1892.

Ueber das Koch'sche Heilverfahren gegen Tuberkulose. Eine kritische Studie. Von Prof. Mariano Semmola, in Neapel. Reprint. Wien, 1891.